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DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY
GEORGE OTIS SMITH, DIRECTOR

BULLETIN 519

RESULTS OF SPIRIT LEVELING IN TENNESSEE

1910 AND 1911

R. B. MARSHALL, CHIEF GEOGRAPHER

Part of work done in cooperation with State of Tennessee through the Tennessee State Geological Survey, George H. Ashley, State geologist

WASHINGTON
GOVERNMENT PRINTING OFFICE
1912

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GEOLOGICAL SURVEY BENCH MARKS.

A, Tablet used in cooperating States. The State name is inserted at *G*.
B and *D*, Copper temporary bench mark, consisting of a nail and copper washer.
A, *C*, and *E*, Tablets for stone or concrete structures.
F, Iron post used where there is no rock.

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RESULTS OF SPIRIT LEVELING IN TENNESSEE, 1910 AND 1911.

R. B. MARSHALL, Chief Geographer.

INTRODUCTION.

Cooperation.—The State of Tennessee contributed financially to the work done in 1910 in the Atwood, Cades, Idlewild, Malesus, Martin, Maury City, and Trimble quadrangles.

Previous publication.—The following results of spirit leveling are supplemental to and in accord with the elevations given in Bulletin 441, and are in agreement with the 1912 adjustment of precise leveling by the Coast and Geodetic Survey.

Personnel.—The field work of 1910 and 1911 was done under the supervision of Frank Sutton, geographer, under the general direction of R. B. Marshall, chief geographer. Credit is given to the different levelmen in the introduction to each list. The office work of computation, adjustment, and preparation of lists was done mainly by S. S. Gannett, geographer, under the general direction of E. M. Douglas, geographer.

Classification.—No precise leveling was done by the United States Geological Survey in this State during 1910 and 1911. For primary lines standard Y levels are used; lines are run in circuits or are closed on precise lines, with an allowable closing error in feet represented by $0.05\sqrt{D}$, in which D is the length of the circuit in miles, sufficient care being given to the work to maintain this standard. For all levels of this class careful office adjustments are made, the circuit closure errors being distributed over the lines.

Datum.—All United States Geological Survey elevations are referred to mean sea level, which is the level that the sea would assume if the influence of winds and tides were eliminated. This level is not the elevation determined from the mean of the highest and the lowest tides, nor is it the half sum of the mean of all the high tides and the mean of all the low tides, which is called the half-tide level. *Mean sea level is the average height of the water, all stages of the tide being considered.* It is determined from observations made by

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means of tidal gages placed at stations where local conditions, such as long, narrow bays, rivers, and like features, will not affect the height of the water. To obtain even approximately correct results these observations must extend over at least one lunar month, and if accuracy is desired they must extend over several years. At ocean stations the half-tide level and the mean sea level usually differ but little. It is assumed that there is no difference between the mean sea level as determined from observations in the Atlantic Ocean, the Gulf of Mexico, or the Pacific Ocean.

The connection with tidal stations for bench marks in certain areas that lie at some distance from the seacoast is still uncertain, and this fact is indicated by the addition of a letter or word to the right of the word "Datum" on tablets or posts. For such areas corrections for published results will be made from time to time as the precise-level lines of the United States Geological Survey or other Government organizations are extended.

Topographic maps.—Maps of the following quadrangles wholly or partly in Tennessee have been published by the United States Geological Survey up to July 1, 1912. They may be obtained for 5 cents each or $3 a hundred on application to the Director of the Survey at Washington, D. C.:

Abingdon (Va.–Tenn.–N. C.).
Asheville (N. C.–Tenn.).
Briceville.
Bristol (Va.–Tenn.).
Chattanooga.
Cleveland.
Columbia.
Cranberry (N. C.–Tenn.).
Cumberland Gap (Ky.–Va.–Tenn.).
Dalton (Ga.–Tenn.).
Ducktown special (Tenn.–Ga.–N. C.).
Ellijay (Ga.–N. C.–Tenn.).
Estillville (Ky.–Va.–Tenn.).
Franklin.
Greeneville (Tenn.–N. C.).
Huntsville (Ala.–Tenn.).
Jonesville (Ky.–Va.–Tenn.).
Kingston.
Knoxville (Tenn.–N. C.).
Loudon.
McMinnville.
Maynardville.
Morristown.
Mount Guyot (Tenn.–N. C.).
Mount Mitchell (N. C.–Tenn.).
Murphy (Tenn.–N .C.).
Nantahala (N. C.–Tenn.).
Nashville.
Pikeville.[1]
Pikeville special.[1]
Ringgold (Ga.–Tenn.).
Roan Mountain (Tenn.–N. C.).
Scottsboro (Ala.–Tenn.).
Sewanee.
Standingstone.
Stevenson (Ala.–Ga.–Tenn.).
Waynesboro (Tenn.–Ala.).
Wartburg.
Williamsburg (Ky.–Tenn.).
Woodbury.

Bench marks.—The standard bench marks are of two forms. The first form is a circular bronze or aluminum tablet (*C* and *E*, Pl. I) 3½ inches in diameter and one-quarter inch thick, having a 3-inch stem, which is cemented in a drill hole in solid rock in the wall of some public building, a bridge abutment, or other substantial masonry structure. The second form (*F*, Pl. I), used where masonry

[1] Pikeville special sheet shows part of Pikeville quadrangle on larger scale.

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or rock is not available, consists of a hollow wrought-iron post 3½ inches in outer diameter and 4 feet in length. The bottom is spread out to a width of 10 inches in order to give a firm bearing on the earth. A bronze or aluminum-bronze cap is riveted over the top of the post, which is set about 3 feet in the ground. A third style of bench mark with abbreviated lettering (*B* and *D*, Pl. I) is used for unimportant points. This consists of a special copper nail, 1½ inches in length, driven through a copper washer seven-eighths inch in diameter. The tablets as well as the caps on the iron posts are appropriately lettered, and State cooperation is indicated by the addition of the State name (*G*, Pl. I).

The numbers stamped on the bench marks described in the following pages represent the elevations to the nearest foot as determined by the levelman. These numbers are stamped with $\frac{3}{16}$-inch steel dies on the tablets or post caps, to the left of the word "Feet." The office adjustment of the notes and the reduction to mean sea level datum may so change some of the figures that the original markings are 1 or 2 feet in error. It is assumed that engineers and others who have occasion to use the bench-mark elevations will apply to the Director of the United States Geological Survey, at Washington, D. C., for the adjusted values, and will use the markings as identification numbers only.

PRIMARY LEVELING.

Crossville quadrangle.

BLEDSOE, CUMBERLAND, VAN BUREN, AND WHITE COUNTIES.

The following elevations were determined by primary leveling based upon United States Geological Survey bench marks at Farmingdale and Litton established from the Coast and Geodetic Survey bench marks at Dayton and Evensville in 1909. The circuit run in 1909 had a closure error of +1.143 feet and that run in 1910, a closure error of +0.878 feet. Both circuits have been adjusted, although the error is excessive.

The leveling in 1910 was done by F. W. Farnsworth.

CROSSVILLE QUADRANGLE.

Farmingdale north along public roads via Clifty to Pleasant Hill, thence east along roads via Pomona to Crossville south along roads via Biglick to Litton.

	Feet.
Farmingdale, 310 feet east of, southeast corner of store, 20 feet north of road, in sandstone ledge; aluminum tablet stamped "1708"	1,708.717
Farmingdale, 300 feet southwest of schoolhouse, at road forks; nail in root of large oak tree, marked "1743.3"	1,743.04
Farmingdale, 1 mile north of, 120 feet north of small stream, at left of road; nail in root of large white oak, marked "1694"	1,693.85
Winesap, 1 mile south of, at road forks, 10 feet south of road, in large sandstone; aluminum tablet stamped "1689"	1,689.26

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	Feet.
Winesap, 0.5 mile west of, in southeast angle of road corner; nail in root of white oak, marked "1758.8"	1,758.60
Winesap, 1.6 miles north of, 700 feet north of farmhouse, 15 feet east of road, in sandstone; aluminum tablet stamped "1793"	1,792.696
Zion Church, 0.6 mile south of, 110 feet north of Long Branch; point on rock marked with cross, marked "1975.6"	1,975.74
Zion Church, 0.1 mile south of, 300 feet south of road fork, 15 feet to left of road, in large sandstone bowlder; aluminum tablet stamped "1998"	1,998.522
Zion Church, 0.8 mile north of, 150 feet north of small stream; chiseled square on rock marked with cross, marked "1920.9"	1,921.14
Zion Church, 1.7 miles north of, 60 feet south of small stream; nail in root of white oak, marked "1809"	1,809.20
Zion Church, 2.8 miles north of, in southwest angle of road corner, 40 feet south of road corner; nail in root of white oak, marked "1796.6"	1,796.81
Zion Church, 3 miles north of, 300 feet north of road corner, 400 feet north of small stream, 25 feet to right of road, in sandstone; aluminum tablet stamped "1816"	1,816.159
Clifty, 3 miles south of, at road corner; nail in root of white oak, marked "1914.4"	1,914.70
Clifty, 2.6 miles south of, at road corner to right, left of road; point on rock marked with cross, marked "1745.7"	1,776.00
Clifty, 1.8 miles south of, in southeast angle of road to right; nail in root of small white oak, marked "1633.4"	1,633.71
Clifty, 1.3 miles south of, 140 feet south of Pilot Ford, on east bank of Caney Fork Creek, in large conglomerate sandstone; aluminum tablet stamped "1518"	1,518.043
Clifty, 100 feet east of Consolidated Coal Co. store 50 feet northeast of street corner, in sandstone bowlder; aluminum tablet stamped "1583"	1,583.356
Clifty, 1.3 miles north of, at southwest angle of crossroad; nail in root of large oak stump, marked "1766.6"	1,767.03
Clifty, 1.9 miles north of, 40 feet north of West Fork Creek, in sandstone bowlder; aluminum tablet stamped "1655"	1,655.757
Clifty, 3.1 miles north of, in southwest angle of road to left; nail in root of small black oak, marked "1814.7"	1,815.12
Pleasant Hill, 1.4 miles south of, 1 mile west of Pleasant Ridge schoolhouse, 100 feet east of road to left, 100 feet west of road to right, 20 feet south of road, in sandstone; aluminum tablet stamped "1943"	1,943.176
Pleasant Hill, 0.6 mile south of, 20 feet south of White Oak Creek; nail in root of water oak tree, marked "1751.7"	1,752.12
Pleasant Hill, 50 feet northeast of post office; nail in root of large oak tree, marked "1912"	1,912.53
Pleasant Hill, 90 feet east of schoolhouse, 30 feet south of center of road, in sandstone ledge; aluminum tablet stamped "1900"	1,900.887
Pleasant Hill, 1 mile east of, at southwest angle of road to south; nail in root of oak tree, marked "1898.8"	1,899.29
Pleasant Hill, 2.1 miles east of, 0.5 mile west of Caney Fork Creek, at northwest angle of road to left; nail in root of white oak, marked "1749.4"	1,749.89
Pleasant Hill, 2.9 miles east of, 0.2 mile east of Caney Fork Creek, at road corners; chiseled square on rock marked with cross, marked "1716.8"	1,717.81

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	Feet.
Pleasant Hill, 3.6 miles east of, 450 feet east of Tantrough Creek, 40 feet north of road, in sandstone ledge; aluminum tablet stamped "1700"	1,700.978
Pomona, 0.4 mile west of post office, at corner road to right; nail in root of oak tree, marked "1900.4"	1,900.93
Pomona, 0.4 mile east of, at southeast angle of road to right; nail in root of oak tree, marked "1873.7"	1,874.32
Pomona, 0.7 mile east of, 0.25 mile west of Littlefield Creek, 50 feet south of road, in large sandstone; aluminum tablet stamped "1852"	1,852.471
Pomona, 1.5 miles east of, 0.5 mile east of Littlefield Creek, at southeast angle of road to right; nail in root of hickory tree, marked "1877.3"	1,877.92
Crossville, 3.1 miles west of, 0.2 mile southeast of Howard Springs, 300 feet west of road to left, 50 feet north of road; aluminum tablet stamped "1844"	1,844.485
Crossville, 1.8 miles west of, 0.4 mile west of Obed Creek, 100 feet west of road to left; point on rock marked with cross, marked "1796.9"	1,797.53
Crossville, 0.3 mile west of, 20 feet west of small stream, 15 feet south of road, in sandstone; aluminum tablet stamped "1820"	1,821.163
Crossville, 0.6 mile south of, 90 feet north of crossroads; point on rock marked with cross, marked "1884.7"	1,885.39
Crossville, 1.7 miles south of, at northeast angle of road to left; nail in root of small oak tree, marked "1851.9"	1,852.68
Crossville, 2.4 miles south of, 200 feet north of creek, 40 feet west of road in sandstone ledge; aluminum tablet stamped "1834"	1,834.913
Crossville, 3.6 miles south of, 0.6 mile north of Birds Creek, at northeast angle of road to left; nail in root of small oak tree, marked "1903.3"	1,904.03
Crossville, 4.6 miles south of, 0.4 mile south of Birds Creek, 180 feet south of small stream, 20 feet east of road; chiseled square on rock, marked "1830.8"	1,831.64
Birds Creek, 1.4 miles south of, 0.2 mile south of Walton Crossroads, 250 feet north of small stream; nail in root of small oak tree, marked "1887.4"	1,888.24
Birds Creek, 1.7 miles south of, 1.1 miles north of Basses Creek, 300 feet north of small stream, 60 feet west of road, in sandstone; aluminum tablet stamped "1865"	1,865.437
Basses Creek, 250 feet north of, 15 feet to right of road; point on rock marked with cross, marked "1793"	1,793.81
Biglick, 2.6 miles north of, 250 feet north of road east, 5 feet west of road; nail in root of oak tree, marked "1888.1"	1,889.02
Biglick, 1.8 miles north of, 1.3 miles north of Lick Creek, 3 feet to left of road; point on rock marked with cross, marked "1849.5"	1,850.42
Biglick, 1.4 miles north of, 100 feet north of bridge over Lick Creek, 30 feet to left of road, in sandstone ledge; aluminum tablet stamped "1769"	1,769.680
Biglick, 0.5 mile north of, 180 feet south of small stream, 5 feet to right of road; point on rock marked with cross, marked "1813.5"	1,814.42
Biglick, 0.6 mile south of, 300 feet north of Oak Grove Church, at northwest angle of road to left; nail in root of oak stump, marked "1843.6"	1,844.61

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	Feet.
Biglick, 1.7 miles south of, 0.4 mile north of Brown Gap, 380 feet south of road to left, 180 feet northeast of house, 30 feet to left of road, in sandstone ledge; aluminum tablet stamped "1846"	1,846.971
Litton, 3 miles north of, 0.7 mile south of top of Brown Gap, at head of small drain; point on rock marked with cross, marked "1711.5"	1,712.55
Litton, 2.1 miles north of, 50 feet to south of road to left; point on rock marked with cross marked "1359.8"	1,360.84
Litton, 1.5 miles north of, 535 feet south of junction of Parham and Brown Gap roads, 45 feet to right of road, in limestone ledge; aluminum tablet stamped "1064"	1,064.639
Litton, 800 feet east of schoolhouse, at intersection of Litton-Hinch Mountain and Low Gap roads, 10 feet south of north end of stone fence, 3 feet west of north end of stone fence, in limestone ledge; aluminum tablet stamped "983 Prim. Trav. Sta. No. 2"	983.514

Hollow Springs, Tullahoma, and Woodbury quadrangles.

CANNON AND COFFEE COUNTIES.

The elevations in the following list were determined by primary leveling extended from the precise level line, Nashville to Woodbury, the results of which are published in Bulletin 441.

The leveling was done in 1911 by S. E. Taylor.

WOODBURY QUADRANGLE.

Woodbury south along road to Youngs Chapel.

	Feet.
Woodbury, on south side of county courthouse, in east stone balustrade of steps leading into front entrance; aluminum tablet stamped "713"	714.567
Woodbury, 2.8 miles south of, 370 feet south of second-class road west, east side of road, at top of hill; chiseled square on sandstone rock, marked "1179"	1,178.78
Woodbury, 6.3 miles south of, in west side of northwest stone foundation corner of Youngs schoolhouse; aluminum tablet stamped "1196"	1,195.822

Bradyville north to point 2.1 miles east of Readyville.

Bradyville, 1.8 miles north of, 50 feet northwest of four corners of crossroad, 20 feet east of creek bank; chiseled square on limestone rock, marked "674"	672.88
Bradyville, 3 miles north of, 50 feet west of three corners at second-class road east, south side of road; point on limestone ledge, marked "667"	666.53
Bradyville, 4.6 miles north of, 10 feet northeast of three corners at Y road southeast; chiseled square on limestone ledge, marked "654"	653.16
Readyville, 2.1 miles east of, 40 feet south of center of road, 35 feet east of gate leading to Mrs. H. M. Barton's residence, in limestone rock; aluminum tablet stamped "663"	664.654

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HOLLOW SPRINGS QUADRANGLE.

Youngs Chapel south along road to Pocahontas, thence west to near Beech Grove, thence north to Bradyville.

	Feet.
Woodbury, 6.3 miles south of, in west side of northwest stone foundation corner of Youngs schoolhouse; aluminum tablet stamped "1196"	1,195.822
Youngs Chapel, 0.7 mile south of, at T road east; copper nail in northwest corner of small bridge over drain, marked "1163.7"	1,163.61
Youngs Chapel, 2.7 miles south of, 120 feet south of stream crossing, 100 feet north of three corners at Y road northwest, west side of road, in ledge of flint rock; aluminum tablet stamped "1120"	1,120.093
Youngs Chapel, 3.2 miles south of, at crossroad; point on south side of wooden bridge, marked "1132"	1,131.86
Youngs Chapel, 3.3 miles south of, 310 feet north of residence of Mr. Lewis, on west side of road; copper nail in root on east side of 30-inch jack oak tree, marked "1122.4"	1,122.18
Youngs Chapel, 4.2 miles south of, on east side of main road at second-class cross road; copper nail in root of 15-inch oak tree, marked "1153.8"	1,153.56
Youngs Chapel, 5.7 miles south of, at Y road west, 10 feet north of mail box; copper nail in top of small stump, marked "1129.5"	1,129.26
Youngs Chapel, 6.3 miles south of, 400 feet south of three corners at Y road east, 500 feet north of stream crossing, 350 feet northeast of house, on west side of road in ledge of rock; aluminum tablet stamped "1092"	1,092.206
Youngs Chapel, 6.8 miles south of, in southwest angle of T road west leading to Hollow Springs; copper nail in root of 3-foot black oak tree, marked "1095.4"	1,095.18
Pocahontas, 0.5 mile north of, 15 feet west of four corners at cross-road; copper nail in root of 15-inch black oak tree, marked "1076"	1,075.69
Pocahontas, five corners at crossroads, in top of middle stone pillar of north side of old Pocahontas schoolhouse; aluminum tablet stamped "1072"	1,071.488
Pocahontas, 1.2 miles west of, 310 feet east of four corners at cross-roads, on south side of road; copper nail in root of 30-inch white oak, marked "1,109.7"	1,109.44
Pocahontas, 3.1 miles west of, 35 feet north of four corners at cross-roads (Pocohontas, Beech Grove, and Hollow Springs-Manchester roads); copper nail in root of 14-inch walnut tree, marked "1127.9"	1,127.58
Pocahontas, 3.8 miles west of, 250 feet east of three corners, at second-class Y road north, at stream crossing, 7 feet north of center of road, in sandstone rock; aluminum tablet stamped "1134"	1,134.125
Pocahontas, 4.3 miles west of, 20 feet east of four corners at cross-roads; painted point on root of 20-inch red oak, marked "1156.1"	1,155.79
Pocahontas, 5.3 miles west of, 100 feet west of three corners at Y road northwest, north side of road; copper b. m. nail in root of 17-inch red oak tree, marked "1184.3"	1,184.03
Hoodoo, 1.2 miles east of, 30 feet north of four corners at cross-roads; copper b. m. nail in root of 16-inch black oak tree, marked "1,225.8"	1,225.58
Hoodoo, 30 feet east of school house, 300 feet northwest of store at crossroads; copper b. m. nail in root of white oak tree, marked "1252.5"	1,252.28

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	Feet.
Hoodoo, 0.7 mile west of, at top of hill, at second-class T road southwest; copper b. m. nail in root of 22-inch hickory tree, marked "1262.6"	1,262.36
Beech Grove, 3 miles northeast of, 15 feet north of center of road up Norton Branch, in limestone ledge; aluminum tablet stamped "972"	971.810
Beech Grove, 1.5 miles northeast of, 50 feet south of three corners at T road east up Norton Branch at wooden bridge, on west bank of Garrison Fork of Duck River; copper b. m. nail in root of 20-inch sycamore tree, marked "894.9"	894.107
Beech Grove, 2 miles north of, at T road west; point on top of limestone bowlder, marked "945.5"	944.7
Beech Grove, 2.4 miles north of, 500 feet north of second-class Y road, at top of bank, west side of road, in limestone ledge; aluminum tablet stamped "958"	955.860
Gossburg, three corners at T road, 20 feet west of two mail boxes; point on top of limestone rock, marked "925"	924.25
Beech Grove, 4.1 miles north of, 80 feet south of Gossburg Academy, at forks of creek, 100 feet west of road; copper b. m. nail in root of 4-foot elm tree, marked "963.5"	962.64
Beech Grove, 4.5 miles north of, at T road east; point on top of wall, marked "1009.1"	1,008.29
Beech Grove, 5 miles northeast of, 125 feet east of four corners at T road, at divide at county-line crossing, in limestone ledge in cleared pasture field; aluminum tablet stamped "1238"	1,236.819
Bradyville, 3.2 miles southwest of, at foot of hill, 15 feet west of second-class road south; point on top of limestone rock, marked "833"	832.56
Bradyville, 2.3 miles southwest of, on south side of road at three corners at Y road west, 130 feet east of schoolhouse; chiseled square on limestone ledge, marked "801.6"	800.77
Bradyville, 1.7 miles southwest of, at top of bank, 50 feet west of right angle turn in road, south side of road, in limestone ledge; aluminum table stamped "830"	829.390
Bradyville, 1.3 miles southwest of, at road forks on Brawleys Fork, on east side of creek bank; copper b. m. nail in root of 20-inch hickory tree, marked "734"	733.15
Bradyville, 1.1 miles southwest of, at fork of road down Brawleys Fork; point on top of limestone rock, marked "731"	730.13
Bradyville, at south end of, 15 feet east of three corners at Y road; point on limestone rock, marked "770.1"	769.19
Bradyville, 0.4 mile north of, 15 feet east of three corners at Y road, in limestone ledge; aluminum tablet stamped "732"	731.284

Pocahontas south along road to Forest Mill, thence southwest to point near Manchester.

Pocahontas, 0.8 mile south of, three corners at Y road west, at top of rise; copper b. m. nail in root of 30-inch red oak tree, marked "1088.6"	1,088.35
Pocahontas, 1.7 miles south of, 10 feet northwest of stable on east side of road; point on top of corner stone, marked "U.S.B.M. 1085"	1,084.48
Pocahontas, 2.1 miles south of, on east side of road; copper b. m. nail in root of 15-inch red oak tree, marked "U.S.B.M. 1080"	1,079.65

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	Feet.
Pocahontas, 3.9 miles south of, in south side of southwest corner of stone foundation of church; aluminum tablet stamped "1100"	1,099.924
Pocahontas, 4.6 miles south of, 40 feet north of four corners at cross-roads, on east side of main road; copper b. m. nail in root of 14-inch black oak tree, marked "1094.9"	1,094.54
Pocahontas, 6.1 miles south of, 40 feet southwest of three corners at Y road west, about 430 feet east of schoolhouse, 20 feet north of revolving mail box frame; copper b. m. nail in root of 14-inch red oak tree, marked "1118.9"	1,118.48
Forest Mill, 2.5 miles north of, 20 feet south of three corners at T road south; copper nail in top of 3-inch twin poplar stump; other twin poplar marked "1093.7"	1,093.30
Forest Mill, 1 mile north of, at second-class Y road east, 170 feet southeast of dwelling house; copper b. m. nail in root of 11-inch hickory, marked "1120.4"	1,120.01
Forest Mill, 250 feet north of road crossing at, 20 feet west of center of public road, 15 feet east of iron pump in enclosed field, in sandstone rock buried in ground; aluminum tablet stamped "1126"	1,125.184
Forest Mill, 1 mile southwest of, at crossing of railroad and second-class road; top of rail, marked "1101"	1,100.80
Forest Mill, 1.2 miles southwest of; copper b. m. nail in northwest corner of railroad trestle 141, marked "1101"	1,100.34

Point near Manchester northwest along road to Beech Grove.

Manchester, 3.9 miles northwest of, three corners at Y road, 30 feet north of mail box; copper b. m. nail in root of 17-inch black oak tree, marked "1089.1"	1,088.55
Manchester, 6 miles northwest of, 160 feet west of crossroad, south side of road; copper b. m. nail in root of 14-inch hickory tree, marked "1126"	1,125.56
Hickerson's store, 0.2 mile west of, three corners at T road; point on top of stump, marked "1164.2"	1,163.6
Hickerson's store, 100 feet east of, 20 feet west of residence of A. H. Hickerson, in north side of limestone well curbing; aluminum tablet stamped "1168"	1,167.767
Balcom, 1.7 miles east of, 10 feet northwest of, three corners at second class Y road, 650 feet west of bridge over running stream; copper b. m. nail in root of 10-inch black oak, marked "1144.6"	1,144.00
Balcom, 0.5 mile east of, at Y road north, on noth side of main road, 100 feet north of church; copper b. m. nail in root of 18-inch black oak tree, marked "1186.2"	1,185.52
Balcom, T road at, 50 feet east of three corners, in vacant lot; copper b. m. nail in root of 10-inch cedar tree, marked "1180.2"	1,179.52
Balcom, 0.2 mile north of, 125 feet south of forks of small stream, 7 feet southwest of center of road, in limestone ledge; aluminum tablet stamped "1078"	1,077.096
Balcom, 2.9 miles north of, three corners at Y road on Panhandle Branch of Noah's Fork; copper nail in root of 28-inch beech, marked "864.8"	864.115
Beckman Mill, 700 feet south of, three corners at Y road, on Panhandle Branch of Noah's Fork; point on top of rock, marked "855.4"	854.76
Booger Hill schoolhouse, 600 feet west of, 110 feet northeast of three corners at T road, 40 feet south of mill dam on Noah's Fork, in limestone ledge; aluminum tablet stamped "861"	860.782

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	Feet.
Beckman Mill, 0.9 mile north of, at Y road west; point on top of limestone bowlder, marked "882.8"	882.11
Beech Grove, 2.1 miles southeast of, 40 feet south of three corners at Y road, at foot of hill, opposite house; point on top of stone wall, marked "984.5"	983.76
Beech Grove, 1.5 miles southeast of, 70 feet east of forks of creek, at road forks, on north side of road; chiseled square on limestone rock, marked "882.9"	882.16
Beech Grove, 0.4 mile southeast of, 20 feet south of three corners at T road west; copper b. m. nail in top of locust post 2 feet high, marked "912.5"	911.78
Beech Grove, in east end of south abutment of county bridge over Garrison Fork of Duck River; aluminum tablet stamped "875"	874.134

Point near Manchester north to Hoodoo.

Manchester, 3.2 miles northwest of, at Y road east; point on root of 12-inch oak tree, marked "1074.3"	1,073.8
Fredonia Church, 120 feet northeast of, 30 feet northwest of three corners at T road, 7 feet west of row of mail boxes; copper b. m. nail in root of 20-inch red oak, marked "1062"	1,061.50
Fredonia Church, 3.2 miles north of, 50 feet east of painted house, west side of road; copper b. m. nail in root of 18-inch walnut tree, marked "1125.3"	1,124.71
Farrel's store (formerly Morton's store), 1.5 miles south of, 120 feet north of three corners at second-class T road west, west side of road; copper b. m. nail in root of 15-inch white oak tree, marked "1189.7"	1,189.13
Farrel's store, 30 feet south of, 15 feet southwest of four corners at crossroads; copper b. m. nail in root of old chestnut stump, marked "1181.1"	1,180.50

TULLAHOMA QUADRANGLE.

Bench marks near Manchester.

Manchester, 1.2 miles northeast of, 5 feet south of public road crossing Nashville, Chattanooga & St. Louis Ry.; copper b. m. nail in end of plank, marked "1077.9"	1,077.37
Manchester, 0.7 mile northeast of, 5 feet north of center of track, at point of curve; top of section of iron rail set upright in ground, marked "1048"	1,047.81
Manchester, 0.5 mile northeast of station, 20 feet west of railroad track, 210 feet northeast of east end of trestle over Little Duck River, 90 feet southeast of house, in sandstone ledge; aluminum tablet stamped "1039"	1,038.663
Manchester, highway crossing at station; top of rail, marked "1032.6"	1,032.1
Manchester, south entrance of courthouse; chiseled square on southeast corner of top step, marked "1065"	1,064.45
Manchester, on Manchester-Beech Grove public road; water level at bridge over Little Duck River	980
Manchester, 1.2 miles northwest of, 15 feet east of northeast corner of concrete abutment of east end of bridge over Duck River, in sandstone ledge; aluminum tablet stamped "Prim. Trav. Sta. No. 1, 996"	995.910
Manchester, 1.7 miles northwest of, at crossroads; point on root of tree, marked "1083.8"	1,083.28

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Gillises Mills and Iuka quadrangles.

HARDIN COUNTY.

The following elevations are based on bench marks of the Coast and Geodetic Survey and of the U. S. Corps of Engineers in the vicinity of Iuka.

The leveling was done in 1911 by J. B. Metcalfe, jr.

IUKA QUADRANGLE.

Point 2.2 miles north of Gardner's store north along highways to point 0.6 mile south of Red Sulphur Springs.

	Feet.
Gardner's store, 3.9 miles north of, 200 feet southwest of house, 6 feet north of road; copper b. m. nail in root of blackjack tree, marked "448.2" (old bench mark marked "443")	448.10
Gardner's store, 4.3 miles north of, 250 feet northwest of foot of hill, in bottom land of Sand Hill Creek, 10 feet southwest of road; copper b. m. nail in root of stump, marked "384.8"	384.73

GILLISES MILLS QUADRANGLE.

Point 0.6 mile south of Red Sulphur Springs along highways to point 2.5 miles east of Red Sulphur Springs.

Red Sulphur Springs, 0.6 mile south of, opposite T road west, 75 feet north of hill top, 300 feet northwest of one-story frame house with brick chimney on north end, 3 feet to road; copper b. m. nail in root of pine tree, marked "488.1" (old bench mark marked "483")	488.02
Red Sulphur Springs, 250 feet northeast of store, about 550 feet west of hotel, 75 feet west of drain crossing, in north angle of three-corner roads; iron post stamped "Prim. Trav. Sta. No. 1 457" (old stamp "452")	457.119
Red Sulphur Springs, 1 mile east of, in east corner of four corner roads, on top of ridge; copper b. m. nail in root of 15-inch pine tree, marked "574.5"	574.47
Red Sulphur Springs, 2.5 miles east of, 200 feet north of Yellow Creek, about 0.2 mile west of mouth of creek, at old gateway, 3 feet south of road; copper b. m. nail in root of 48-inch white oak tree hollow in northwest side, marked "390.2"	390.17

Point 2.5 miles east of Red Sulphur Springs east along highways to mouth of Yellow Creek.

Yellow Creek, mouth of, in northwest corner of creek and river; copper b. m. nail in root of box-elder tree 54 inches in diameter, marked "385.8"	385.77

Point 6 miles northeast of Shaws along highways to point 7.8 miles north of Shaws.

Shaws, 6.1 miles northeast of, 125 feet west of road forks, 100 feet north of rock foundation of old house, at top of rise, 8 feet north of road; iron post stamped "732 Prim. Trav. Sta. No. 2"	732.239
Shaws, 7.2 miles northeast of, 25 feet southwest of road forks to south, 6 feet west of road, about 0.5 mile west of Bumpas Creek; copper b. m. nail in root of 18-inch pine tree, marked "703.8"	703.88
Waterloo, about 6 miles northwest of, 700 feet west of 2-story frame dwelling, on north side of road at forks, about 10 feet from intersection; iron post stamped "568"	567.593

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Atwood, Cades, Idlewild, Malesus, Martin, Maury City, and Trimble quadrangles.

CROCKETT, GIBSON, MADISON, OBION, AND WEAKLEY COUNTIES.

The elevations in the following list are based on precise leveling of the Coast and Geodetic Survey along the Illinois Central Railroad.

The leveling was done in 1910, in the Cades and Idlewild quadrangles by E. L. McNair, J. M. Rawls, and A. F. McNair; in the Trimble, Martin, and Maury City quadrangles by A. F. McNair; in the Malesus quadrangle by J. M. Rawls; and in the Atwood quadrangle by E. L. McNair. The work was done in cooperation with the State.

TRIMBLE QUADRANGLE.

Kenton along Mobile & Ohio R. R. to Bruces.

	Feet.
Kenton, 85 feet south of south end of station, 32 feet west of center of Mobile & Ohio R. R. track, 175 feet east of Lindell Hotel; iron post stamped "Prim. Trav. Sta. No. 21, 1910, 309"	309.113
Bruces, 72 feet west of center of Mobile & Ohio R. R. track at road crossing, 2½ feet north of N. V. Bruce's store, 10 feet back from front of building; iron post stamped "Prim. Trav. Sta. No. 22, 1910, 295"	295.156

Trenton along roads to Tatumville Levee.

Trenton, 7.6 miles northwest of, 148 feet southwest of W. T. Jordan's house, three corners at roads north, south, and east; nail in root of gum tree marked "313.9"	313.84
Trenton, 8.2 miles west of, in front of J. T. Graves house; nail in root of oak tree, marked "304.4" (Prim. Trav. T. B. M. No. 14)	304.31
Lex, 1 mile north of, in front of Kendrick Pierce's house, three corners; nail in root of black gum tree marked "311.2"	310.14
Lex, 1.5 miles northwest of, on south side of road at three corners; nail in root of elm tree, marked "312.7"	312.67
Lex, 2 miles northwest of, 200 feet west of Pinkerton's house, north side of road; nail in root of black gum tree marked "320.7"	319.67
Riverside, halfway between front porches of Riverside Mercantile Co.'s store buildings, 6 feet from corner of main store building; iron post stamped "Prim. Trav. Sta. No. 8, 1910 293"	293.251
Trenton-Dyersburg road, 1,620 feet north of, in lane belonging to E. P. Dawson; nail in root of oak tree marked "284.9"	284.85
Riverside, 3.8 miles southwest of, 800 feet east of R. E. Kellow's house, on north side of road; nail in root of oak tree marked "291.8"	291.68
Forks of River, 1.4 miles east of, on main road at three corners, inside fence on north side of road; nail in root of large oak tree marked "282.4"	282.32
N. D. Morgan's house, 250 feet north of, at three corners on main road; nail in root of large oak marked "271.8"	271.68
Tatumville, 1.9 miles south of, three corners at roads north, south, and east, 27 feet northwest of northwest corner of house occupied by Elisha Summers, inside fence, at southeast corner of road intersection; iron post stamped "282"	281.536

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MAURY CITY QUADRANGLE.

Bench marks near Trenton.

	Feet.
Trenton, 3.4 miles west of, 165 feet southwest of negro house belonging to Charley Lawrence, at angle in road; nail in root of oak tree marked "327"	327.17
Trenton, 4 miles west of, 1,400 feet northwest of negro dwelling occupied by George Lawrence, in John Jetton's lane between two groves; nail in root of oak tree marked "304.9"	304.87
Trenton, 5.3 miles west of, 740 feet north of house occupied by Hooper Moore, east side of north-south road, 1 mile north of Trenton-Dyersburg road; nail in root of cherry tree marked "298.5"	298.44
Trenton, 6.8 miles west of, 50 feet west of angle in Trenton-Dyersburg road west and south; nail in root of hickory tree marked "303.9"	303.78

Tatumville Levee via Eaton and Gibson Wells to Humboldt.

Eaton, 3.7 miles northwest of, on north side of road; copper b. m. nail in sycamore tree marked "275.4" (Prim. Trav. T. B. M. No. 22)	275.34
Eaton, 2.4 miles northwest of, on north side of road; copper b. m. nail in sycamore tree marked "279.8" (Prim. Trav. T. B. M. No. 23)	279.71
Eaton, 1.4 miles northwest of, south side of road; copper b. m. nail in beech tree marked "280.8" (Prim. Trav, T. B. M. No. 24)	280.67
Eaton, on Main Street, in northwest corner of M. A. Hill's property; iron post stamped "Prim. Trav. Sta. No. 10, 310"	309.469
Eaton, 0.8 mile southeast of, intersection of roads at three corners, copper b. m. nail in oak tree marked "296" (Prim, Trav. T. B. M. No. 25)	295.93
Eaton, 1 mile southeast of, 1,700 feet west of J. R. Dennis's house, at southwest corner of thicket; copper b. m. nail in root of oak tree marked "289.6"	289.5
Eaton, 4.4 miles southeast of, 900 feet west of house occupied by DeWitt Barrett, in lane belonging to George Ingram, at edge of woods in bottom; copper b. m. nail in root of oak tree marked "299.1"	299.11
Smith's bridge, 1 mile east of, at three corners, northeast corner of A. H. Lane's land; iron post stamped "306"	304.930
J. T. Robertson's house, edge of woods in bottom south of, west side of creek, on line between Robertson's and Dinwiddie's; nail in root of oak tree marked "292.3"	292.26
Henry Hay's house, 900 feet south of, on fence line at edge of woods, in bottom; nail in root of large gum tree marked "291.6"	291.64
D. Cole, property of, edge of woods in bottom, at angle in wire fence line north and east; nail in root of elm tree marked "299.5"	298.41
Cooper's Mills, 0.25 mile north of, at three corners; copper b. m. nail in root of walnut tree marked "305.4" (Prim. Trav. T. B. M. No. 34)	305.39
Will Richardson's house, 400 feet east of, at corner of properties of of Richardson and W. G. Gordon and D. Hardway; nail in root of poplar tree marked "354.2"	354.22
Gibson Wells, 0.4 mile west of, three corners at roads east, west, and south, at southwest corner; iron post stamped "Prim. Trav. Sta. No. 11, 383"	382.232

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	Feet.
Gibson Wells, 1.9 miles south of, 1,800 feet south of cabin occupied by Green Webb, edge of woods in bottom; nail in root of double tree marked "304.6"	304.57
Bridge over river, 100 feet north of; copper b. m. nail in root of beech tree marked "308.2" (Prim. Trav. T. B. M. No. 37)	308.18
Humboldt, 6 miles west of, 165 feet west of James Nethery's house; copper b. m. nail in root of oak tree marked "333.4" (Prim. Trav. T. B. M. No. 38)	333.38
Humboldt, 4.9 miles west of, 60 feet southwest of southwest corner at three corners, in front of M. L. Dunlap's house; iron post stamped "366 TENN"	364.670

Gadsden via Alamo to Johnsons Grove (unchecked spur line).

Gadsden, 1 mile west of, three corners at roads east, west, and south, inside fence; copper b. m. nail in root of oak tree marked "421.9"	421.81
Gadsden, 1.4 miles west of, angle in road north and west, inside fence; copper b. m. nail in hickory tree; marked "442.2" (Prim. Trav. T. B. M. No. 42)	442.06
Gadsden, 2.8 miles west of, 300 feet south of Liberty Hall School, at three corners; copper b. m. nail in oak tree marked "361.5" (Prim. Trav. T. B. M. No. 43)	361.40
Gadsden, 4.1 miles west of, north side of road at angle; copper b. m. nail in root of locust tree marked "330.9" (Prim. Trav. T. B. M. No. 44)	330.75
Alamo, 3.4 miles southeast of, 120 feet northeast of northeast corner of Tom Porter's house, at roads east, south, and west; copper b. m. nail in root of oak tree marked "326.6"	326.44
Alamo, 2.4 miles southeast of, angle at roads north and east, inside fence line; copper b. m. nail in root of oak tree marked "328.4"	328.24
Alamo, 0.8 mile east of, north side of road; copper b. m. nail in root of oak tree marked "357.5" (Prim. Trav. T. B. M. No. 46)	357.34
Alamo, 46 feet southwest of southwest corner of courthouse, inside fence; iron post stamped "Prim. Trav. Sta. No. 13, 367"	366.593
Alamo, 0.8 mile west of, 100 feet north of road, at three corners, roads east, west, and north; copper b. m. nail in root of oak tree marked "362.8"	362.67
Alamo, 1.9 miles west of, angle in road north and west, on south side of road; copper b. m. nail in root of oak tree marked "350.1" (Prim. Trav. T. B. M. No. 47)	350.01
Alamo, 2.6 miles west of, north side of road, on fence line, in front of white house; copper b. m. nail in root of hickory tree marked "343.9"	343.90
Alamo, 3.4 miles west of, east side of road; copper b. m. nail in root of oak tree marked "373.5" (Prim. Trav. T. B. M. No. 48)	373.53
Johnsons Grove, 0.8 mile east of, 650 feet west of church, on south side of road; copper b. m. nail in root of oak tree marked "389.5" (Prim. Trav. T. B. M. No. 49)	389.46
Johnsons Grove, 2 feet southwest of southwest corner of Methodist Church; iron post stamped "Prim. Trav. Sta. No. 14, 357"	357.019

MALESUS QUADRANGLE.

Youngs Crossing of Mobile & Ohio R. R. to Oakfield.

Carroll, 2.5 miles west of, at Youngs Crossing, 120 feet northeast of crossing; copper b. m. nail in root of water oak tree, marked "349.62"	349.04

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	Feet.
Carroll, 200 feet north of station, 40 feet east of crossing of Mobile & Ohio R. R. right of way; cross on top of monument No. 898.602, marked "371.93"	371.316
Oakfield, in southwest corner of front yard of R. Daniel's house, just north of store and post office; bottom of square cut in limestone block (Coast and Geodetic Survey bench mark XXI)	442.828

CADES QUADRANGLE.

Bench marks near Milan.

Milan, 130 feet southwest of crossing of Illinois Central and Louisville & Nashville railroads, at northeast corner of Southern Pacific Hotel; iron post stamped "Prim. Trav. Sta. No. 23 1906 424"	424.132
Milan, near Union Station, crossing of Louisville & Nashville and Illinois Central railroads; top of rail	423.0

Milan along Louisville & Nashville R. R. to Gadsden.

Milan, 2.8 miles southwest of, 35 feet north of center of Louisville & Nashville R. R. track, 15 feet south of center of public road, 7 feet from large oak tree; iron post stamped "359"	358.443
Gibson, 1.25 miles northeast of, 100 feet northwest of road crossing, on west side of public road; copper b. m. nail in base of large oak tree painted "382.3"	381.56
Gibson, in front of station; top of rail	395.6
Gibson, 140 feet west of station, 50 feet north of center of Louisville & Nashville R. R. track, in Mr. Morgan' yard; iron post stamped "394"	393.101
Gibson, 1.4 miles southwest of, 75 feet south of center of track at road crossing, 25 feet east of center of public road in field; iron post stamped "418"	417.563
Humboldt, crossing of Louisville & Nashville R. R. and Mobile & Ohio R. R. at union station; top of rail	345.2
Humboldt, 130 feet north of Louisville & Nashville R. R. track and 20 feet west of Mobile & Ohio R. R. track, near fence line, in front of and 40 feet east of northeast corner of Donovan Hotel; iron post stamped "Prim. Trav. Sta. No. 1, 1910, 344"	344.206
Gadsden, opposite railroad station, 94 feet from track, 2 feet from fence; iron post stamped "428 Tenn. Prim. Trav. Sta. No. 12"	428.143

Trenton along Mobile & Ohio R. R. to Youngs Crossing.

Trenton, 1.8 miles north of, railroad bridge over North Fork of Forked Deer River, in northwest abutment of bridge, in concrete; small square cut circled with white paint and marked "309.0"	308.44
Trenton, about 0.8 mile north of, 750 feet south of milepost "Mobile 415," 50 feet east of Mobile & Ohio R. R., 50 feet from switch stand for siding at lumber yard and mill, at corner of picket and wire fence and beside gatepost; iron post stamped "Prim. Trav. Sta. No. 3, 1910, 314"	313.876
Trenton, in front of station; top of rail	321
Fruitland, 1.25 miles north of, at road crossing, 100 feet northeast of crossing and 55 feet east of track, on south side of public road; wire nail in root of oak tree marked "362.1"	361.50
Fruitland, 100 feet north of station, 21 feet east of track, opposite switch stand; iron post stamped "Prim. Trav. Sta. No. 2"	374.041

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	Feet.
Humboldt, 2.2 miles north of, 80 feet east of road crossing; wire nail in root of beech tree marked "352.1"	351.47
Humboldt, 2 miles south of, at second-class road crossing, 40 feet west of road crossing; copper b. m. nail, in root of oak tree, marked "334.32"	333.80
Humboldt, 3 miles southeast of, at north end of bridge across North Fork of Deer River; cross mark in concrete	342.98
Humboldt, 3 miles southeast of, at Mobile & Ohio R. R. bridge across Middle Fork of Forked Deer River, in north end of bridge on east side in concrete abutment; bronze tablet stamped "343"	342.984
Humboldt, 5.4 miles southeast of, at road crossing, 50 feet east of crossing; copper b. m. nail in root of sycamore tree, marked "343.92"	343.38

Louisville & Nashville R. R. crossing of Deer River, 2.8 miles southwest of Milan, down river to Trenton.

Milan, 3.6 miles southwest of, near Charlie Kizer's house and T road corners north, south, and east, 35 feet south of east-west road and 40 feet east of north-south road, inside fence in small grove; wire nail in root of oak tree, painted "392.3"	392.26
Milan, 5.25 miles southwest of, on west side of north-south road, about 1.1 miles south of river; nail in root of oak tree, painted "382.3"	382.33
Milan, 6.25 miles west of, at south edge of river bottom, 100 feet south of slough bridge, 20 feet west of road, nail in root of elm tree, painted "335.0"	334.97
Milan, 6.5 miles west of, north side of bottom land of Deer River, 35 feet north of slough bridge, on west side of road at wire fence corner; iron post stamped "340"	340.460
Aiken & Rochelle's store, 0.25 mile west of, 80 feet south of Milan and Trenton road, 25 feet east of road south across river, at edge of grove; nail in root of gum tree, painted "349.4"	349.34
Moore's Chapel, between church and schoolhouse; nail in root of oak tree, painted "384.6"	384.60
Trenton, about 7 miles southeast of, at second-class road, little used—first road crossing river bottom above Trenton—450 feet south of edge of river bottom; 3 feet north of oak tree at corner of wire fence east of road, 75 feet south of fence corner west of road; iron post stamped "331," near tree, painted "U. S. B. M. 331"	331.029
Trenton, 6.8 miles southeast of, at south edge of river bottom, 15 feet west of second-class road, 20 feet south of small creek; cultivated field on east; nail in root of oak tree, painted "331.8"	331.82
Trenton, 6 miles southeast of, about 0.25 mile south of river, 60 feet south of house of Ben Sanford (colored); nail in root of hickory tree, painted "337.6"	337.56
Trenton, about 4.5 miles southeast of, on Trenton-Lexington road, at right angle in road, about 150 feet west of small house; nail in root of small elm tree in wire fence line, painted "337.6"	337.58
Trenton, 4.2 miles southeast of, about 0.5 mile from J. P. McIlwain's place, on main road about 1,200 feet from house at edge of river bottom, on north side of lane from main road to river, 50 feet east of large beech tree; nail in root of black walnut tree, painted "341.9"	341.86

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	Feet.
Trenton, 3.5 miles southeast of, at foot of lane, about 0.5 mile east of main public road, at edge of timbered bottom land; nail in root of large bushy oak tree, painted "322.5"	322.481
Trenton, 2.7 miles southeast of, at foot of Hale's lane, close to edge of bottom land, 150 feet from frame house; nail in root of oak tree nearly in middle of lane, painted "331.5"	331.44
Trenton, 1.4 miles southeast of, near edge of bottom land, in open pasture, just north of Yarbrough's land; nail in root of small double sycamore tree about 18 feet high, painted "335.1"	335.06
Trenton, at fair grounds, about 0.25 mile southeast of buildings, on north side of lane leading to river bottom, 100 feet north of negro dwelling; nail in root of large oak tree, painted "321.8"	321.77
Trenton, at edge of village, 200 feet northwest of end of levee on Trenton-Milan road, 30 feet east of negro shanty; nail in root of one of group of three sycamore trees, painted "311.5"	311.42

Milan along Illinois Central R. R. to Cades.

Milan, 2.4 miles north of, 100 feet east of railway and 20 feet south of highway at road crossing; copper b. m. nail in root of oak tree marked "394.9"	394.76
Cades, 100 feet east of station; copper b. m. nail in root of oak tree marked "367.6"	367.34
Cades, at road crossing; top of rail	370.5

Humboldt west along public road.

Humboldt, 1.7 miles west of, south side of road, in bottom; copper b. m. nail in root of oak tree, marked "321.8" (Prim. Trav. T. B. M. No. 41)	321.76
Humboldt, 3.3 miles west of, south side of road near bridge west of Clarence Nelson's house; copper b. m. nail in root of oak tree, marked "338.2" (Prim. Trav. T. B. M. No. 40)	338.17
Humboldt, 4.2 miles west of, in front of M. T. Moore's house, north side of road; copper b. m. nail in root of oak tree, marked "377.1" (Prim. Trav. T. B. M. No. 39)	377.09

Trenton northwest 1.5 miles.

Trenton, 0.9 mile northwest of, 0.5 mile north of Trenton-Dyersburg road, in W. F. Ingraham's lane; nail in root of sycamore tree at bridge, marked "321.3"	321.20
Trenton, 1.5 miles northwest of, 240 feet northeast of negro's house owned by Ab. Taylor; nail in root of oak tree marked "324.4"	324.36

ATWOOD QUADRANGLE.

Milan east along Louisville & Nashville R. R.

Milan, 3.2 miles northeast of, 15 feet west of west end of long trestle across Rutherford Fork, 8 feet north of center of track of Louisville & Nashville R. R., on railroad embankment; iron post stamped "373"	372.661

IDLEWILD QUADRANGLE.

Point 2.4 miles south of Kenton along Mobile & Ohio R. R. to Trenton.

Rutherford, in front of house of D. P. Forrester, 30 feet south of center of road, 9 feet north of yard fence, 443 feet east of Mobile & Ohio R. R. track, 13 feet from boxelder tree; iron post stamped "Prim. Trav. Sta. No. 4, 318"	318.066

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	Feet.
Rutherford, at street crossing, about 100 feet south of station; top of rail	321.6
Rutherford, 2.4 miles south of, at road crossing, 100 feet east of crossing; wire nail in root of poplar tree marked "343.1"	342.54
Dyer, 1,650 feet south of station, at road crossing, 75 feet east of crossing; wire nail in root of oak tree marked "372.8"	372.29
Grizzard Crossing, 0.9 mile south of, 50 feet west of road crossing; wire nail in root of oak tree marked "327.2"	326.62

Cades along Illinois Central R. R. to Bradford.

Idlewild, 1,560 feet north of, at railroad crossing, 40 feet east of railroad and 80 feet northeast of road; iron post stamped "Prim. Trav. Sta. No. 6, 367," painted "367.7"	367.289
Bradford, 600 feet south of station, at road crossing; top of rail	363.6

Greenfield along Illinois Central R. R. to Sharon.

Greenfield, 150 feet east of center of Illinois Central R. R. track, at point 240 feet north of north end of station, near northeast corner of brick building formerly occupied by Fruit Growers Bank and now occupied by meat shop, in brick wall facing street, 1.6 feet above sidewalk; small copper bolt leaded horizontally (Coast and Geodetic Survey bench mark)	437.684
Greenfield, 90 feet west of center of Illinois Central R. R. track at point 75 feet south of south end of station, 60 feet from northeast corner of Commercial Hotel, on lawn of hotel grounds; iron post stamped "Prim. Trav. Sta. No. 19, 1910"	432.087
Greenfield, in front of station; top of rail	433.
Greenfield, 3.6 miles north of, 360 feet south of crossing of fork of Obion River, on stone foundation pier of water tank; circle; painted "320.4"	320.35
Sharon, in front of station; top of rail	414.7

Bradford via Keeleys Mill to Rutherford.

Bradford, 1.4 miles west of, in front of C. Newbill's house, on north edge of road; wire nail in root of oak tree marked "427.7"	427.66
Bradford, 2.9 miles west of, 335 feet west of T road leading north, 20 feet north of road; wire nail in root of oak tree marked "376.4"	376.39
Bradford, 3.8 miles west of, at junction of Trenton-Dresden road, in triangle formed by roads; wire nail in root of oak tree marked "406.95"	406.97
Keeleys Mills, 1.5 miles southeast of, 300 feet northwest of second-class road fork; copper b. m. nail in sweet gum tree marked "336.2" (Prim. Trav. T. B. M. No. 5)	335.65
Keeleys Mills, 191 feet from Keeley's house, on embankment, 15 feet south of road; iron post stamped "Prim. Trav. Sta. No. 5, 341"	340.084
Keeleys Mills, 0.6 mile north of, at second-class road fork, 50 feet east of fork; wire nail in root of oak tree marked "372.6"	372.05
Rutherford, 5 miles east of, at Good Luck crossroads, 130 feet south of crossing; copper b. m. nail in root of poplar tree marked "363.8" (Prim. Trav. T. B. M. No. 4)	363.33
Rutherford, 3 miles east of, at O. T. Flower's mail box, on north side of road; copper b. m. nail in oak tree marked "414.5" (Prim. Trav. T. B. M. No. 3)	414.01

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	Feet.
Rutherford, 2 miles east of, north side of road; copper b. m. nail in root of sweet gum tree marked "341.3" (Prim. Trav. T. B. M. No. 2)	340.82
Rutherford, 1.7 miles northeast of, at road forks near J. A. Crowell's house, 50 feet south of road and 100 feet east of house; wire nail in root of oak tree marked "342.5"	341.96
Rutherford, 0.5 mile northeast of, at bridge crossing Rutherford Fork, 150 feet north of river, on east side of road; copper b. m. nail in root of willow tree marked "311.1" (Prim. Trav. T. B. M. No. 1)	310.64

Idlewild toward Keeleys Mills.

Idlewild, 1 mile west of, 150 feet north of house, on west side of road; copper b. m. nail in root of oak tree marked "441.3" (Prim. Trav. T. B. M. No. 10)	440.89
Idlewild, 1.7 miles northwest of, at forks of road, 50 feet west of forks of road; copper b. m. nail in root of hickory tree marked "388.4"	387.90
Idlewild, 1.8 miles northwest of; copper b. m. nail in root of beech tree marked "370.3" (Prim. Trav. T. B. M. No. 9)	369.81
Idlewild, 2.9 miles northwest of, at forks of Idlewild-Trenton and Bradford-Trenton roads, 100 feet east of fork; copper b. m. nail in root of oak tree marked "423.6"	423.16
Bradford, 3.5 miles west of, at Davis Graveyard, in front of and on east side of highway; copper b. m. nail in root of walnut tree marked "413.9" (Prim. Trav. T. B. M. No. 8)	413.42
Rutherford Fork at Bradford-Trenton bridge crossing, 60 feet southwest of center of bridge; copper b. m. nail in root of beech tree marked "337.2" (Prim. Trav. T. B. M. No. 7)	336.76
Trenton-Dresden road, 175 feet east of, at south end of levee across Rutherford Fork; copper b. m. nail in root of oak tree marked "331.7" (Prim. Trav. T. B. M. No. 6)	331.23
Bradford, 4.8 miles west of, 0.5 mile northeast of Rutherford Fork, 250 feet southwest of road fork and 50 feet west of road; copper b. m. nail in root of oak tree marked "346.9"	346.34

Sharon along public road to Kenton.

Sharon, 290 feet north of and 45 feet west of center of Illinois Central R. R. track, on south side of east-west street and 55 feet from northeast corner of J. H. Parish's store; iron post stamped "Prim. Trav. Sta. No. 20, 1910, 411"	411.416
Sharon, 0.7 mile west of, 90 feet east of intersection of roads north, east, and west; nail in root of oak tree on north side of road, marked "385.5"	385.47
Sharon, 1.1 miles west of, near intersection of road south, 15 feet west of fence corner, on north side of main road; nail in root of cedar tree marked "388.4"	388.33
Sharon, 2 miles west of, north side of road, opposite road intersection; nail in root of oak tree marked "391.1"	391.06
Sharon, 3.6 miles west of, at southwest corner of intersecting roads; copper b. m. nail in root of oak tree marked "388.6"	388.53
Sharon, 5 miles west of, 90 feet west of intersection of roads (three corners), on south side of main road; nail in root of elm tree marked "382.8"	382.71

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	Feet.
Sidonia, 445 feet west of Lee & Simmon's store at four corners, on north side of road, at angle in fence line and in line with road fence; iron post stamped "Prim. Trav. Sta. No. 21, 1910, 376"	375.760
Sidonia, 1.4 miles west of, on west side of road at road to southwest; nail in root of hickory tree marked "392.3"	392.19
Limbs, 0.8 mile east of, on west side of road opposite road intersection; nail in root of beech tree marked "379.8"	379.70
Kenton, 2.3 miles north of, at three corners, 54 feet west of schoolhouse; nail in large oak tree marked "340.5"	340.40
Kenton, 1.7 miles north of, 60 feet east of intersection of roads north, south, and east, south side of east road; nail in root of sycamore tree marked "304.3"	304.12

MARTIN QUADRANGLE.

Bench marks near Limbs.

Limbs, 0.5 mile east of, on south side of road at three corners (roads south, east, and west); nail in root of oak tree marked "340.3"	340.18
Limbs, 0.6 mile west of; at three corners (roads north, south, and east); nail in root of large oak tree marked "321.2"	321.06

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APPENDIX A.

ELEVATIONS ADJUSTED BY THE COAST AND GEODETIC SURVEY FROM PRECISE LEVELING.

Adamsville, Annadel, Bartlett, Blytheville, Cades, Caruthersville, Coal Creek, Collierville, Corinth, Corona, Dayton, Gillises Mills, Hales Point, Harriman, Helenwood, Idlewild, Jasper, Lookout Mountain, McNairy, Malesus, Martin, Memphis, Middleton, Moscow, Oliver Springs, Ooltewah, Osceola, Portageville, Roddy, Saulsbury, Selmer, Shooks, Spring City, Stearns, Tiptonville, and Wheat quadrangles.

ANDERSON, CHESTER, DAYTON, DYER, FAYETTE, GIBSON, HAMILTON, HARDEMAN, LAUDERDALE, McNAIRY, MADISON, MARION, MORGAN, OBION, RHEA, ROANE, SCOTT, SHELBY, TIPTON, AND WEAKLEY COUNTIES.

The following descriptions and elevations are taken from reports of the Coast and Geodetic Survey, and are republished by permission of the Superintendent of that bureau. The bench marks were established by the Coast and Geodetic Survey, by the Mississippi River Commission, and by the United States Corps of Engineers from precise leveling and were included in the 1907 adjustment by the Coast and Geodetic Survey. The elevations were not changed by the 1912 adjustment.

STEARNS QUADRANGLE.

Point near Winfield.

	Feet.
Winfield, 0.8 mile above, west side of southern of two piers near middle of trestle 74 of the Cincinnati, New Orleans & Texas Pacific Ry., 2 inches from west edge and 3 inches from north edge of stone, bottom of square hole (C. & G. S. A)	1,300.030

HELENWOOD QUADRANGLE.

Oneida along Cincinnati, New Orleans & Texas Pacific Ry. to Glen Mary.

Oneida, 100 feet south of station, on right of way, about 40 feet north of tracks, 75 feet west of two large trees opposite station; bottom of square hole in top of limestone post, lettered "U. S. □ B. M." (C. & G. S. B)	1,438.919
Helenwood, on right of way, 40 feet west of southwest corner of station, 2 feet from fence, 35 feet from siding, about 75 feet south of Mrs. Voss's boarding house; bottom of square hole in top of limestone post, lettered "U. S. □ B. M." (C. & G. S. C)	1,387.557
New River, on sandstone block supporting the northern one of the western pair of twelve wooden columns under tank, 0.5 inch each way from north and west edges of stone; bottom of square hole (C. & G. S. D)	1,204.316

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	Feet.
Robbin, 1 mile south of, just north of post marked "CHA 115", on stone of top course of masonry on east side of south abutment of trestle 82, one-half inch each way from east and north sides of stone; bottom of square hole (C. & G. S. E)	1,376.102
Glen Mary, just south of, on stone about 5 feet square supporting trestle work of bridge 84, on east side of track, on top course of masonry of north abutment of bridge, 3½ inches from west and 3 inches from north edge of stone; bottom of square hole (C. & G. S. F)	1,276.708

ANNADEL QUADRANGLE.

Sunbright along Cincinnati, New Orleans & Texas Pacific Ry. to Oakdale.

Sunbright, 7 feet north of first telegraph pole west of one marked "25/229," nearly opposite station, between two poles near battery station 241 of block-signal system, on railroad right of way; bottom of square hole in top of limestone post, lettered "U. S. □ B. M." (C. & G. S. G.)	1,337.454
Annadel, about 100 yards north of station, on most southern stone of top course of masonry of west wall of south bridgehead of Cincinnati, New Orleans & Texas Pacific Ry. trestle 86 over Rock Creek, 1 inch from north and 1 inch from west edge of stone; bottom of a square hole (C. & G. S. H)	1,231.952
Lancing, 200 feet south of station, 40 feet west of track, in southeast corner of small plot of ground, 2.5 feet from east and 2.5 feet from south fence of inclosure, on railroad right of way; bottom of square hole in top of limestone post, lettered "U. S. □ B. M." (C. & G. S. I)	1,180.842
Nemo, near, 5 miles north of Oakdale, near telegraph pole 5/247, on east pier in center of covered bridge 90, near center of semicircumference of top stone of circular pier, and about 2.5 inches from edge; bottom of square hole, lettered "U. S. □ B. M." C. & G. S. J)	836.612

HARRIMAN QUADRANGLE.

Oakdale along Cincinnati, New Orleans & Texas Pacific Ry. to Glen Alice.

Oakdale, 75 feet from northeast corner of Babahatchie Inn and about 75 feet across tracks from northwest corner of station, 25 feet from nearest rail and 8 feet below grade, on outer angle of a fence surrounding inn; bottom of square hole in top of limestone post, marked "U. S. □ B. M." (C. & G. S. K)	791.839
Oakdale, 200 yards south of station, on west side of north pier of bridge over small creek running into Emory River, about 6 inches from south and west edges of stone upon which it is cut; bottom of square hole, lettered "U. S. □ B. M." (C. & G. S. L)	794.002
Harriman Junction, near, 42 cm. west of corner of retaining wall, on line with face of retaining wall, west of track, on north abutment of railroad bridge over Emory River, on first stone of bridge seat course east of stone supporting bridge; bottom of square hole, lettered "U. S. C. □ & G. S." (C. & G. S. A–2)	768.832

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Harriman, on northwest corner of Roane and Crescent streets, on Denny Block, northeast corner of iron plate under iron column at right of open corner at corner door, 155 cm. north of southeast corner of brick corner column, 31 cm. above sidewalk; top surface inclosed by square with one-inch sides (C. & G. S. B–2)---------- Feet. 794.271

Harriman, southeast corner of Walden and Roane streets, on foundation of southeast bay window of American University, in third course of masonry below brick work, in center of second stone from north end of curve, 126 centimeters above ground; brass bolt, lettered "U. S. C. ⊖ & G. S." (C. & G. S. C–2)---------- 792.284

Harriman, top surface of outer angle of stone supporting southwest brick corner of First National Bank Building, about 2½ inches above sidewalk (C. & G. S. "City")---------- 785.997

Emory Gap, 550 meters north of, on right of way, just north of switch to coal-mine siding, on north abutment of viaduct bridge, 1.83 meters north of southwest corner of abutment and 6 inches north of south face; bottom of square hole, lettered "U. S. C. □ & G. S." (C. & G. S. D–2)---------- 835.928

Cardiff, 252 meters south of station, on south side at east end of heavy stone cattle pass, 1.15 meters east of east rail, 1.12 meters below top of rail, and 5.5 inches from either face of heavy corner stone; bottom of square hole, lettered "U. S. C. □ & G. S." (C. & G. S. E–2)---------- 793.659

Rockwood, on Peterman Block, on south side of Rockwood Avenue, in stone base under first window east of large arched entrance, 0.158 meter west of brick work and 0.117 meter back from face of stone; brass bolt, lettered "U. S. C. ⊖ & G. S." (C. & G. S. F–2)- 878.369

Rockwood, on east face of Mourfield Hotel, owned by J. A. Black, 3.93 meters north of southeast corner of main building, 1.08 meters above ground, in south end of stone window sill; brass bolt (C. & G. S. G–2)---------- 880.040

Glen Alice, 205 meters north of station, east of wagon road between end of heavy box culvert and track, on east end of culvert, on coping stone, 7 inches west of east face and 1½ feet east of west face; bottom of square hole, lettered "U. S. C. □ & G. S." (C. & G. S. H–2)---------- 796.060

WHEAT QUADRANGLE.

Elverton along highways to Melton triangulation station.

Elverton, on Southern Ry. right of way, about 50 feet north of tracks, 100 feet northwest of station, 25 feet west of lone cedar tree 5 inches in diameter; bottom of square hole in top of limestone post, lettered "U. S. □ B. M." (C. & G. S. M)---------- 816.739

Wheat, in foundation of Baptist Church, on south face and near southeast corner, about 4½ inches from edge and midway between upper and lower surfaces of first course of stone below brick; copper bolt (C. & G. S. N)---------- 894.706

Williams Ferry, about 1 mile north of, on Clinch River, about 0.2 mile southeast of Martin Vann's house, on land of George Lee, on highest point in ridge known as Copper Ridge; center of heavy limestone post projecting 4 inches above surface of ground, lettered "U. S. C. S." (C. & G. S. "Melton △")---------- 1,355.341

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OLIVER SPRINGS QUADRANGLE.

At Oliver Springs.

	Feet.
Oliver Springs, about 60 feet west of station, in line between first and second telegraph poles from station, 7 feet from first pole and 15 feet from nearest rail of siding; bottom of square hole in top of limestone post, lettered "U. S. □ B. M." (C. & G. S. O)	783.961

COAL CREEK QUADRANGLE.

Dossett along Southern Ry. to Powell.

Dossett, across tracks from station, almost in line with west side of station and 12 paces from nearest rail of Southern Ry. tracks; bottom of square hole in top of limestone post, lettered "U. S. □ B. M." (C. & G. S. P)	904.821
Clinton, on Southern Ry. bridge over Clinch River, on north bridge head on east side, on top surface of large stone supporting trestle work, 5 inches from south and 5 inches from east edge of stone; bottom of square hole cut in stone, lettered "U. S. □ B. M." (C. & G. S. Q)	831.706
Heiskell, 80 feet west of station, 10 feet north of nearest rail of siding, 6 feet southwest of first telegraph pole west of station, on Southern Ry. right of way; bottom of square hole cut in top of limestone post, lettered "U. S. □ B. M." (C. & G. S. R)	901.644
Powell, 200 feet west of station, 12 feet south of nearest rail of siding, 15 feet west of second telegraph pole west of station, 15 feet east of switch stand, 40 feet east of mail stand, on right of way of Southern Ry.; bottom of square hole in top of limestone post, lettered "U. S. □ B. M." (C. & G. S. S)	994.020

SHOOKS QUADRANGLE.

At Black Oak.

Black Oak, 5 rails west of station sign, 20 feet south of nearest rail of main tracks, 8 feet north of 7-inch oak tree, 10 feet northeast of 10-inch oak tree, on right of way of Southern Ry.; bottom of square hole in top of limestone post, lettered "U. S. □ B. M." (C. & G. S. T)	1,102.628

RODDY QUADRANGLE.

At Roddy.

Roddy, 509 meters south of station, on north abutment of bridge 107, east side, on second stone north from south face, 1.1 meters north of south face, 4½ inches west of east face; bottom of square hole, lettered "U. S. C. □ & G. S." (C. & G. S. I–2)	771.881

SPRING CITY QUADRANGLE.

Lorraine along Cincinnati, New Orleans & Texas Pacific Ry. to Evansville.

Lorraine, 550 meters north of station platform, on east end of stone box culvert, 5.8 meters east of and 2.9 meters below east rail, on coping stone, 0.55 meter north of south face and 5 inches west of east face; bottom of square hole, lettered "U. S. C. □ & G. S." (C. & G. S. J–2)	802.954

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	Feet.
Spring City, 0.5 mile north of, on south abutment of railroad bridge over Little Piney Creek, 3.04 meters east and 2.9 meters below top of east rail, 1.12 meters above ground, 4 meters west of extreme eastern end of abutment; brass bolt, lettered "U. S. C. ⊖ & G. S." (C. & G. S. K–2)	765.784
Sheffield, 630 meters south of, on heavy arched culvert, on west side of north end, 5.65 meters west of and 2.8 meters below west rail, on third step below coping, 8 inches north of south face and 6 inches east of west face; bottom of square hole, lettered "U. S. C. □ & G. S." (C. & G. S. L–2)	813.561
Evensville, 1,225 meters north of station, on corner stone of bridge-seat course of bridge 119, on west side at north end of bridge, 2.7 meters west and 1.3 meters below west rail, 8 inches east of west face and 10 inches north of south face of stone; bottom of square hole, lettered "U. S. C. □ & G. S." (C. & G. S. M–2)	758.904
Evensville, 1,330 meters south of, on south abutment of bridge over Little Richland Creek, at east end, on second step below coping, 2.65 meters east and 1 meter below east rail, 6 inches south of north face and 5 inches west of east face of step; bottom of square hole, lettered "U. S. C. □ & G. S." (C. & G. S. N–2)	742.927

DAYTON QUADRANGLE.

Dayton along Cincinnati, New Orleans & Texas Pacific Ry. to Rathburn.

Dayton, at county court building, on south face of water table, 0.42 meter east of southwest corner and 1.15 meters above ground; brass bolt, lettered "U. S. C. ⊖ & G. S." (C. & G. S. O–2)	706.793
Dayton, at northeast corner of Dayton Bank & Trust Co. building, on south side of Main Street, 1.18 meters above sidewalk and 0.28 meter west of northwest corner; brass bolt, lettered "U. S. C. ⊖ & G. S." (C. & G. S. P–2)	702.399
Graysville, 1.4 miles north of, on east side of north end of large arched culvert or viaduct of railroad, on first step below coping, 7 inches east of east face of coping, 4 inches north of south face, and 12 inches west of east face of step; bottom of square hole, lettered "U. S. C. □ & G. S." (C. & G. S. Q–2)	763.453
Graysville, 0.7 mile south of, on east end of south abutment of bridge 125 over Roaring Creek, on coping of abutment which projects beyond the bridge-seat blocks, 2.45 meters east of and 1.85 meters below east rail, 4 inches west of east face and 7 inches south of north face of stone; bottom of square hole, lettered "U. S. C. □ & G. S." (C. & G. S. R–2)	708.375
Sale Creek, 275 meters north of station platform, on corner stone of bridge-seat course, on west side at north end of railroad bridge over Rock Creek, 5 inches north of south face and 8 inches east of west face; copper bolt, lettered "U. S. C. ⊖ & G. S." (C. & G. S. S–2)	733.414
Retro, 1,250 meters south of, on south abutment of railroad bridge 131 over Opossum Creek, on southwest corner of coping; 2.4 meters west of and 1.75 meters below west rail, 8 inches east of west face and 13 inches north of south face of stone; bottom of square hole, lettered "U. S. C. □ & G. S." (C. & G. S. T–2)	728.504

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Rathburn, 205 meters north of station, on north side of south abutment of railroad bridge over Little Soddy Creek, 1.2 meters west of and 2.5 meters below west rail, on bridge-seat stone, 8 inches south of north face and 6½ inches east of west edge; bottom of square hole, lettered "U. S. C. □ & G. S." (C. & G. S. U–2)..... Feet. 771.916

OOLTEWAH QUADRANGLE.

Daisy along Cincinnati, New Orleans & Texas Pacific Ry. to Boyce.

Daisy, 230 meters north of station, on north abutment at east end of bridge 135, on corner stone of bridge-seat course, 2.5 meters east of and 1.11 meters below east rail, 4½ inches west of east face and 10 inches north of south face of stone; bottom of square hole, lettered "U. S. C. □ & G. S." (C. & G. S. V–2)..... 720.759

Cave Springs, 1.2 miles north of, on south side of west end of stone box culvert under track of railroad, 3.35 meters west of and 1.32 meters below west rail, on first step below coping, 4 inches east of west face and 6 inches south of north face; bottom of square hole, lettered "U. S. C. □ & G. S." (C. & G. S. W–2)..... 677.889

Cave Springs, 1.4 miles south of, on south abutment of railroad bridge 138 over North Chickamauga Creek, at milepost marked "CIN 323", 2.8 meters west and 0.97 meter below west rail on corner stone of coping, 5 inches east of west face, 1.1 meters south of north face, and 0.65 meter north of south face; bottom of square hole, lettered "U. S. C. □ & G. S." (C. & G. S. X–2)..... 679.420

Hixson, 187 meters south of station, in vertical face of a rock in place about center of rock cut, 3.15 meters west of and 0.75 meter above west rail; brass bolt, lettered "U. S. C. ⊖ & G. S." (C. & G. S. Y–2)..... 680.237

Hixson and Boyce, between, on west end of north abutment of railroad bridge over Tennessee River, 2.25 meters west of and 1.17 meters below west rail, on northwest corner of coping stone, 7 inches east of west face and 7 inches south of north face; copper bolt, lettered "U. S. C. ⊖ & G. S." (C. & G. S. Z–2)..... 688.940

Hixson and Boyce, between, on south abutment of railroad bridge over Tennessee River, on southwest corner of bridge-seat stone, 2.2 meters west and 1.17 meters below west rail, 8 inches north of south face and 7 inches east of west face of stone; bottom of square hole, lettered "U. S. C. □ & G. S." (C. & G. S. A–3)..... 688.851

LOOKOUT MOUNTAIN QUADRANGLE.

Bench marks near Chattanooga.

Chattanooga, east of city, at crossing of Knoxville branch of Southern Ry. over the Cincinnati, New Orleans & Texas Pacific Ry., on east retaining wall, 1.7 meters east of and 1 meter above east rail of Nashville, Chattanooga & St. Louis Ry. track, in center of stone of third course above ground, 11½ inches south of north edge of stone and 10 inches north of north end of bridge-seat stone; brass bolt, lettered "U. S. C. ⊖ & G. S." (C. & G. S. B–3)..... 668.918

Chattanooga, on southwest corner of Broad and West Eighth streets, on north wall of foundation of First National Bank Building, in large sandstone block in third course above sidewalk, in third stone west of basement entry, 1.1 meters above sidewalk and 0.85 meter east of basement window; brass bolt (C. & G. S. C–3)..... 676.695

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	Feet.
Chattanooga, southwest corner of Market and Sixth streets, on east end of water table of old First National Bank Building; city engineer's bench mark (C. & G. S. "Gauge")	674.161
Chattanooga, near, on south end at east side of railroad bridge over Chattanooga Creek, 0.85 meter east of and 1.75 meters below east rail, on bridge-seat stone, 4 inches north of south face and 8 inches west of pier supporting iron superstructure; bottom of square hole, lettered U. S. C. □ G. S." (C. & G. S. D–3)	660.784

JASPER QUADRANGLE.

Whiteside along Nashville, Chattanooga & St. Louis Ry. to Shellmound.

Whiteside, 220 meters north of station, on north side at west end of culvert about 5.8 meters below west rail, on northwest corner of coping stone, 10 inches from either face; bottom of square hole, lettered "U. S. C. □ & G. S." (C. & G. S. F–3)	861.390
Shellmound, 11 meters west and 30 meters north of station, 8 meters east of Hammond's store; monument established by U. S. Corps of Engineers, with upper surface flush with ground and marked "U X S," the exact point taken as bench mark being center of circle of which lower loop of S is a segment (C. & G. S. U. S.)	623.087
Shellmound, 560 meters west of, on south end of west abutment of Nashville, Chattanooga & St. Louis Ry. bridge over Nicojack Creek, 2.55 meters south of and 1.78 meters below south rail, on coping, 6 inches north of south face and 10 inches east of west face; copper bolt, lettered "U. S. C. ⊖ & G. S. (C. & G. S. G–3)	620.660

GILLISES MILLS QUADRANGLE.

Along Tennessee River near Yellow Creek.

Yellow Creek, 0.5 mile above, on Widow Johnson's estate at second "rock waterfall" above creek, directly below a 6-inch white ash tree blazed toward bench that elbows out from rocks, about 25 feet above an elm blazed facing bench, on second shelf from bottom extending entirely across creek, 8 feet below center of waterway; copper bolt, marked "U. S. ⊙ P. B. M." (U. S. Corps of Engineers "P. B. M. 58")	407.325
Yellow Creek, 1.5 miles below, on Winn estate, in large ledge directly over center of inlet of Winn Spring, 2 feet above water surface; copper bolt, marked "U. S. ⊙ P. B. M." (U. S. Corps of Engineers "P. B. M. 59")	369.451

ADAMSVILLE QUADRANGLE.

Along Tennessee River near Pittsburg Landing.

Boyds Landing, near, on road up bluff from Boyds, Edwards, and Duncans landings, at intersection of Pickwick road and Rocky Branch, at foot of bluff, opposite point where road crosses creek, on west side of lower part of road at point where shale rock shows as bed of creek, 39 feet from red oak tree blazed in the form of an ellipse, facing bench, on shelf of shale rock about 2 feet above ground; copper bolt, marked "U. S. P. B. M." (U. S. Corps of Engineers "P. B. M. 60")	401.924

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	Feet.
Hamburg Landing, 0.8 mile above, 10 feet outside of line of trees and brush, near two blazed trees, on very large bowlder of concrete rock at base of bank; top of iron bolt projecting 1½ inches above surface of rock (U. S. Corps of Engineers "Old P. B. M. 1")	351.686
Pittsburg Landing, in portion of wall of national cemetery parallel to river, about 500 feet above northeast corner, in center of coping stone; iron bolt projecting 1 inch above surface (U. S. Corps of Engineers "Old P. B. M. 2")	387.707
Pittsburg Landing, about 325 feet above northeast corner of wall of national cemetery, about 2 feet beyond angle in wall, in coping stone; copper bolt, marked "U. S. ⊙ P. B. M." (U. S. Corps of Engineers "P. B. M. 61")	421.208

CORINTH QUADRANGLE.

At Chewalla.

Chewalla, north of track and east of public road, in side face of brick chimney on east end of frame house occupied by F. S. McCallar, railroad agent, in second brick from end of house and in fourteenth course above ground in side of chimney toward front of house; copper bolt (C. & G. S. L)	413.236

SELMER QUADRANGLE.

At Cypress Creek.

Cypress Creek, on east bank of creek and south of track, outside superstructure of bridge, near outer edge of stone pier of iron railroad bridge over Cypress Creek; bottom of square cut, lettered "U. S. B. M." (C. & G. S. M)	384.524

SELMER QUADRANGLE.

Ramer along Mobile & Ohio R. R. to Bethel Springs.

Ramer, in brick, in fourth course from top at southeast corner of pier under southwest corner of Mobile & Ohio R. R. station; brass bolt (C. & G. S. X)	414.830
Falcon, a short distance north of station, in second brick from southeast corner of sixth course above foundation of chimney on side fronting track, on south end of house owned by Mobile & Ohio R. R.; brass bolt (C. & G. S. Y)	432.214
Bethel Springs, 5½ inches from front edge of sill and 5½ inches from wall forming south side of building, on one of raised portions of corrugated iron doorsill of Stovall, Epps & Hendrix Co.'s brick storehouse; surface inclosed between two file marks about 1 inch apart (C. & G. S. Z)	468.278

McNAIRY QUADRANGLE.

McNairy along Mobile & Ohio R. R. to Pinson.

McNairy, 0.2 mile south of station, at south end of E. W. Sheffield's house, west of and fronting railroad, in rock foundation at southeast corner of chimney; bottom of square cut (C. & G. S. No. XXVII)	457.810

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	Feet.
Henderson, west and a short distance north of railroad station, in south wall of J. F. Hamlett's storehouse, in sixth brick from southwest corner of building in fifth course above ground; brass bolt (C. & G. S. No. XXVI)	431.281
Pinson, west and a short distance north of railroad station, in front of M. M. Robin's store, facing track, in eleventh course above sidewalk, second brick from northeast corner of building; brass bolt (C. & G. S. No. XXV)	387.126

MALESUS QUADRANGLE.

Bench marks near Jackson.

Jackson, 2.5 miles south of, at north end of Mobile & Ohio R. R. bridge over Forked Deer River, west of track and near lower chord of bridge, about 13 inches from north edge of stone, on stone coping of brick pier; bottom of square cut (C. & G. S. No. XXIV)	353.258
Jackson, corner of Market and Baltimore streets, in front of basement window of Federal Building, just north of Market Street entrance, in capstone of retaining wall; bottom of square cut, marked "U. S. □ B. M." (C. & G. S. No. XXIII)	396.224
Jackson, at west end of Illinois Central R. R. bridge over Market Street, south of track, on capstone of brick pier; bottom of square cut, lettered "U. S. □ B. M." (C. & G. S. No. XXII)	393.020
Oakfield, in southwest corner of front yard of R. Daniel's house, which stands just north of store and post office; square cut in limestone block, marked "U. S. □ B. M." (C. & G. S. No. XXI)	442.828

CADES QUADRANGLE.

Medina along Illinois Central R. R. to Milan.

Medina, at northwest corner of W. A. House's front yard; square cut in limestone block, marked "U. S. □ B. M." (C. & G. S. No. XX)	504.985
Milan, in front yard of Dr. M. D. L. Gordon's house, on Main Street, near public school, north of house near fence; square cut on limestone block, marked "U. S. □ B. M." (C. & G. S. No. XIX)	430.561
Milan, in north wall of building on southwest corner of Front and Main streets, in seventh course above pavement, sixth brick east of second doorway from west end of building; brass bolt (C. & G. S. No. XVIII)	424.661

IDLEWILD QUADRANGLE.

Bradford along Illinois Central R. R. to Sharon.

Bradford, in southwest corner of front yard of J. T. Cain's house, southeast of railroad station, fronting track; square cut on granite block, lettered "U. S. □ B. M." (C. & G. S. No. XVII)	367.926
Greenfield, in front wall of Darling Jones's storehouse, in third brick from northwest corner of building and in eighth course above pavement; brass bolt (C. & G. S. No. XV)	437.684
Sharon, at north end of Lloyd Dodd's house, in brick in twenty-fourth course above ground and near middle of chimney; brass bolt, lettered "U. S. ⊙ B. M." (C. & G. S. No. XIV)	417.848

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MARTIN QUADRANGLE.

Martin along Illinois Central R. R. to McConnell.

	Feet.
Martin, in west side of bank building owned by J. R. Lovelace, in fourth brick from northwest corner and in tenth course above ground; brass bolt (C. & G. S. No. XIII)	417.680
McConnell, in northeast corner of yard of W. B. Smith, agent for the Illinois Central R. R.; square cut in limestone block, lettered "U. S. □ B. M." (C. & G. S. No. XII)	357.166

MIDDLETON QUADRANGLE.

Cypress Creek along Southern Ry. to Saulsbury.

Pocahontas, in front face of Brick Hotel kept by Mr. Seay, railroad agent, north of track and nearly opposite the railroad station, in third brick from southwest corner of building and in twelfth course above ground; copper bolt (C. & G. S. N)	400.593
Middleton, in face of west side wall of brick store just west of hotel, in second brick from northwest corner of building and in fourth course below front doorsill; copper bolt (C. & G. S. O)	411.000

SAULSBURY QUADRANGLE.

Saulsbury along Southern Ry. to La Grange.

Saulsbury, in face of west side wall near southwest corner of brick store owned and occupied by R. M. Wright, in fifth brick from southwest corner and in twenty-first course above ground; copper bolt (C. & G. S. P)	543.091
Grand Junction, north of track and a short distance east of railroad crossing, in face of front wall, near southeast corner of brick store owned and occupied by W. R. Robinson, in second brick from southeast corner and in fourth course above front porch; copper bolt (C. & G. S. R)	582.155
La Grange, east side of street and north of track, in top of stone abutment of railroad bridge over Main Street; bottom of square cut (C. & G. S. I)	533.607
La Grange, west side of street and south of track, in top of stone abutment to railroad bridge over Main Street; bottom of square cut (C. & G. S. K)	533.712

MOSCOW QUADRANGLE.

Bench marks near Moscow.

Moscow, in south face (next to track) of foundation of railroad tank, 6.2 feet from southwest corner; square cut (C. & G. S. H)	354.087
Wolf River railroad bridge, east bank of stream, on inner side of raised portion on north end of stone pier, 1.5 feet from its eastern face; square cut, lettered "U. S. □ B. M." (C. & G. S. G)	338.154

COLLIERVILLE QUADRANGLE.

Rossville along Southern Ry. to Bailey.

Rossville, on east side of railroad water tank, 2 feet north of southeast corner of foundation, in top of ledge, a few inches above ground; square cut (C. & G. S. F)	310.150

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	Feet.
Collierville, a short distance from railroad on east side of Duloney & Patrick's brick storehouse facing public square, in third brick from southwest corner of building and in eleventh course above ground; copper bolt (C. & G. S. E)	386.975
Bailey, near station, in brick chimney on west end of J. W. Brown's residence, in corner brick on south or front face of chimney in twenty-second course above ground; copper bolt (C. & G. S. D)	357.676

BARTLETT QUADRANGLE.

Germantown along Southern Ry. to Buntyn.

Germantown, under northwest corner of railroad-station platform, in northwest corner of upper surface of stone cap to brick pier; bottom of square cut (C. & G. S. C)	379.438
White Station, in stone foundation of railroad water tank, on top of offset at southwest corner and about 18 inches above ground; bottom of square cut, marked "U. S. □ B. M." (C. & G. S. B)	314.734
Buntyn, on west side of entrance to Methodist Church, substantial brick building, on first brick offset above ground, on third brick from west side of entrance; upper surface of brick within square outline (C. & G. S. A)	300.809

TIPTONVILLE QUADRANGLE.

Point near Kentucky-Tennessee State line along Mississippi River to Tiptonville.

Kentucky-Tennessee State line, 1,830 meters below, 80 meters above triangular station Kentuck, on line between that station and triangulation station Lester, 100 meters from river, in stone post; copper bolt (U. S. Corps of Engineers "P. B. M. 20")	294.492
Tiptonville, in northern end of, in southwest corner of Amberg's front yard, in stone post; copper bolt (U. S. Corps of Engineers "P. B. M. 22")	290.139
Tiptonville, in north side of Nicholas Brady's yard, 1 meter from fence, in stone post; copper bolt (U. S. Corps of Engineers "P. B. M. 23")	295.735

PORTAGEVILLE QUADRANGLE.

Point 5.5 miles below Lesters Landing along Mississippi River to point 0.5 mile below Reelfoot Landing.

Lesters Landing, 5.5 miles below, 38 meters from road, 58 meters from river, in stone post in woods; copper bolt (U. S. Corps of Engineers "P. B. M. 21")	293.392
Tiptonville, 4 miles below, 500 meters south of river at triangulation station Riley, which stands on river bank, 20 meters north of public road, in stone post in woods; copper bolt (U. S. Corps of Engineers "P. B. M. 24")	280.105
Basses Landing, 1.6 miles above, 150 meters west of house, 6 meters west of road, on land of Robert Watson now occupied by J. B. George, in stone post in woods; copper bolt (U. S. Corps of Engineers "P. B. M. 25")	280.884
Reelfoot, 0.5 mile below, on land of G. W. Curtis, 80 meters from river, 100 meters north of Curtis's house, in stone post in woods; copper bolt (U. S. Corps of Engineers "P. B. M. 26")	278.235

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CARUTHERSVILLE QUADRANGLE.

Motts Landing along Mississippi River to point 8.8 miles below Booths Point.

	Feet.
Motts Landing, on land of Terrell Fields, 4 miles above Booths Point, 140 meters back from river, 29 meters from an old shed; 89 meters N. 37° E. Fields's house, now occupied by John Hazaleno, in stone post in woods; copper bolt (U. S. Corps of Engineers "P. B. M. 27")	270.544
Booths Point Landing, 480 meters S. 60° E. from, 55 meters east of fence and 4 meters from hickory tree, in stone post in woods; iron bolt (U. S. Corps of Engineers "P. B. M. 28")	270.187
Booths Point, 4.5 miles below, on land of W. M. Pate, 2 meters west of fence, 28 meters south of large cottonwood tree, 20 meters southeast of sycamore tree, 16 meters east of box-elder tree, in corner of woods, in stone post; copper bolt (U. S. Corps of Engineers "P. B. M. 29")	263.551
Booths Point, 8.8 miles below, 200 meters from river and 97 meters east of northeast corner of cornfield, 1 meter southeast of cottonwood tree, in stone post in woods on land of Joseph Mitchell; copper bolt (U. S. Corps of Engineers "P. B. M. 30")	263.221

HALES POINT QUADRANGLE.

Point below Booths Point along Mississippi River to point about 0.5 mile above head of Forked Deer Island (No. 26).

Booths Point, below, 1 meter west of small sycamore tree, 18 meters east of public road, 43 meters east of old chute, 93 meters west of fence on land of W. S. Henley, in stone post; copper bolt (U. S. Corps of Engineers "P. B. M. 31")	263.954
Hales Point, 1.5 miles above, 1,140 meters above mouth of Obion River, 10 meters west of public road, in stone post marking triangulation station Obion; copper bolt (U. S. Corps of Engineers "P. B. M. 32")	260.550
Hales Point, 1.25 miles below, on land of Mr. Thompson, 75 meters east of house now occupied by Daniel Caughlan, 60 meters south of road, 1 meter east of large elm tree, about 0.8 mile from river, 472 meters above bend in road between Hales Point and Ripley, in stone post in woods; copper bolt (U. S. Corps of Engineers "P. B. M. 33")	259.702
Hales Point, 6 miles below, 65 meters east of river bank at "Wardloss Packet," 3 meters south of elm tree near canebrake on land of Merriweather heirs, in stone post in woods; copper bolt (U. S. Corps of Engineers "P. B. M. 34")	254.992
Forked Deer Island (No. 26), 0.5 mile above head of, 40 meters north of Forked Deer River, 110 meters northeast of junction of Mississippi and Forked Deer rivers, 47 meters from river, 2 meters east of large cottonwood tree, in stone post in woods; copper bolt (U. S. Corps of Engineers "P. B. M. 35")	255.708

BLYTHEVILLE QUADRANGLE.

Bench marks near Ashport.

Ashport, 4 miles above, 90 meters from chute, on east side of chute of Island No. 26, in stone post in woods; copper bolt (U. S. Corps of Engineers "P. B. M. 36")	254.708

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Ashport, 200 meters above, in woods 85 meters back from river, 1 meter north of sycamore tree, on land of J. S. Kelly; stone in ground (U. S. Corps of Engineers "P. B. M. 37") ..... Feet. 254.462

OSCEOLA QUADRANGLE.

Point 4.5 miles below Ashport along Mississippi River to point near Richardsons Landing.

Ashport, 4.5 miles below, 90 meters from river, 1 meter east of large red oak, in stone post in ground in woods; copper bolt (U. S. Corps of Engineers "P. B. M. 38") 251.234

Plum Point, 1 mile below, 329 meters northeast of triangulation station Plum Point on bank of river, on land of E. B. Friend, 1 meter west of sycamore tree, 24 meters west of fence, in stone post back of cotton field; copper bolt (U. S. Corps of Engineers "P. M. B. 39") 249.553

Plum Point, 2.5 miles below, 45 meters back from river, 1 meter east of sycamore tree and 1 meter west of box-elder tree, in stone post in woods; copper bolt (U. S. Corps of Engineers "P. B. M. 40") 247.412

Fort Pillow Landing, at base of bluffs above, at mouth of Cold Creek, 30 meters from river and 80 meters below Horace Dike's house, in stone post; copper bolt (U. S. Corps of Engineers "P. B. M. 41") 254.077

Fulton, about 0.8 mile west of post office, 125 meters back from river, about 140 meters east of a graveyard in woods, on land of A. Lea & Co., 12 meters east of fence and 300 meters west of Dr. Allen's house, in stone post in woods; copper bolt (U. S. Corps of Engineers "P. B. M. 42") 298.576

Fulton, 1,648 meters below flouring mill, 2 meters from an elm tree, 50 meters from river and about 20 meters from base of bluffs, in stone post in woods; copper bolt (U. S. Corps of Engineers "P. M. B. 43") 246.995

South Hatchee River, 588 meters above mouth of, 110 meters back from river, in stone post in woods; copper bolt (U. S. Corps of Engineers "P. B. M. 44") 243.663

Randolph, 2 miles above, 40 meters northwest of house, 45 meters west of Hatchee Island Chute, on land of Lena Alston on Hatchee Island, in stone post; copper bolt (U. S. Corps of Engineers "P. B. M. 45") 242.869

Randolph, west end of town, between Memphis road and river, 44 meters from Mrs. Deakin's house, 32 meters south of stable, in stone post; copper bolt (U. S. Corps of Engineers "P. B. M. 46"). A triangulation station stands between this bench and river, on high knoll 342.184

Randolph, 1,200 meters below post office, 21 meters north of Randolph and Memphis road, at point where road crosses an old fortification line, 2 meters from large cottonwood tree, in woods; top of corner bolt in stone post (U. S. Corps of Engineers "P. B. M. 47") 392.703

Richardsons Landing, about 700 meters below, 85 meters back from river, 80 meters south of triangulation station "Richardsons," 6 miles below Randolph, on east bank of levee, in stone post; copper bolt (U. S. Corps of Engineers "P. B. M. 48") 240.892

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CORONA QUADRANGLE.

Point 4 miles below Richardsons Landing along Mississippi River to Island No. 40.

	Feet.
Richardsons Landing, 4 miles below, 150 meters from bank of chute of Island No. 35, 150 meters south of southeast corner of field, in woods on land of Mr. Etherly, in stone post in woods; copper bolt (U. S. Corps of Engineers "P. B. M. 49")	237.177
Paynes Landing, back of, 12 miles below Randolph, 242 meters east of triangulation station Wallace, 257 meters from river, 17 meters north of end of lane, 2 meters west of fence, in stone post; copper bolt (U. S. Corps of Engineers "P. B. M. 50")	236.471
Thomas Landing, 4 miles above, 160 meters from river, 140 meters south by southeast of house, 1 meter from small sycamore tree on land of L. Ziegler, 750 meters below upper end of "old" river at Centennial Cut-off, in stone post; copper bolt (U. S. Corps of Engineers "P. B. M. 51")	236.566
Thomas Landing, 480 meters above, 160 meters from river, 1 meter west of box-elder tree, 1½ meters east of mulberry tree, on land of J. R. Walt, in stone post; copper bolt (U. S. Corps of Engineers "P. B. M. 52")	232.141
Brinkleys Landing, 1.8 miles above, on land of John Turner's heirs, 52 meters south of road leading from river, 1.2 miles below mouth of Bateman's Bayou, 102 meters from old bed of river and about 2 miles below Centennial Cut-off, in stone post in canebrake; copper bolt (U. S. Corps of Engineers "P. B. M. 53")	226.710
Island No. 40, 130 meters from chute of, 2,732 meters below head of chute, 95 meters east of road, in stone post in woods on land of Mr. Duncan; copper bolt (U. S. Corps of Engineers "P. B. M. 54")	224.224

MEMPHIS QUADRANGLE.

Bench marks near Memphis.

Island No. 40, 0.2 mile below foot of, 130 meters east of river, northeast of cabin 14 meters from river, in stone post in edge of woods east of field; copper bolt (U. S. Corps of Engineers "P. B. M. 55")	221.532
Memphis, 6 miles above new customhouse, 446 meters south of Costin's house, 267 meters south of cabin in field, near public road, 10 meters east of slough, 40 meters west of Memphis road, in stone post in woods on land of Claybrook & Williams; Copper bolt (U. S. Corps of Engineers "P. B. M. 56")	221.358

At Memphis.

Memphis, in face of subsill of first basement window from southwest corner, on west side of new customhouse; copper bolt, lettered "U. S. ⊙ B. M." (C. & G. S. "P. B. M. Memphis")	264.578
Memphis, in water table of customhouse, at southwest corner, about 2 feet north of corner of old part of building; head of copper bolt[1] leaded horizontally	273.994

[1] This bench mark is called "P. B. M. Memphis (new)" and was transferred from position of original permanent bench mark on account of removal of west wall and enlargement of building.

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	Feet.
Memphis, at southeast corner of Front and Jefferson streets; point near east end of stone doorsill; U. S. Corps of Engineers gage bench mark 3 Nicol 1876, marked "U. S. E. Λ" (elevation by 1903 adjustment, 274,380)[1]	274.368
Memphis, on south side of Cossitt Library near railroad track; top surface of fifth stone from levee of limestone curb, near cross cut in flagstone within small square cut in 1901; U. S. Engineer Corps bench mark "T. P. a" (elevation by 1903 adjustment, 240.589)	240.588

[1] The correction to elevations of the U. S. Engineer Corps based on the Memphis datum in this vicinity is about 6.8 feet, to be subtracted to reduce to mean sea level.

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APPENDIX B.

SECONDARY ELEVATIONS.

Secondary elevations from records and topographic maps of the United States Geological Survey, including altitudes of well-known summits and other useful elevations, are given below. These elevations are approximate only and should not be used for accurate work.

Locality.	Quadrangle.	County.	Elevation.
			Feet.
Allardt	Wartburg	Fentress	1,672
Altamont	Sewanee	Grundy	1,923
Beaverdam Bald	Murphy	Monroe, Tenn.; Cherokee, N. C.	4,280
Beersheba Springs	Sewanee	Grundy	1,838
Big Bald	Mount Mitchell	Unicoi, Tenn.; Yancey, N. C.	5,530
Big Butt	Greeneville	Greene-Washington, Tenn.; Madison-Unicoi, N. C.	4,889
Bon Air	Pikeville	White	1,590
Bristol	Bristol	Sullivan	1,689
Brushy Mountain triangulation station	Briceville	Morgan	3,240
Bull Mountain	Mount Guyot	Cocke	3,551
Chestnut Mountain	Pikeville	White	2,026
Chimneytop	Greeneville	Greene-Hawkins-Sullivan.	3,076
Chucky triangulation station	Asheville	Greene	3,240
Clayton Knob	Pikeville special	Bledsoe	2,473
Cold Spring	Pikeville special	Bledsoe	875
Cope Mountain	McMinnville	Warren	1,260
Crab Orchard Gap	Cumberland	Kingston	1,660
Cross Mountain triangulation station	Briceville	Anderson-Campbell	3,550
Crossville	Pikeville	Cumberland	1,881
Cut Laurel Gap	Abingdon	Johnson, Tenn.; Ashe, N. C.	3,746
Deer Lodge	Wartburg	Morgan	1,598
Doyle	McMinnville	White	964
Duck River Ridge	Franklin	Williamson	1,021
Ducktown	Ducktown (special map).	Polk	1,696
Emory Gap	Kingston	Roane	840
Evensville	Kingston	Rhea	767
Fraley Gap	Pikeville special	Bledsoe	2,002
Goodlettsville	Nashville	Davidson	489
Gort Knob	Pikeville special	Bledsoe	2,529
Grassy Cove	Kingston	Cumberland	1,534
Greeneville	Greeneville	Greene	1,554
Guide Mountain	Murphy	Monroe	1,903
Hall Top	Mount Guyot	Cocke	3,609
Helenwood	Wartburg	Scott	1,387
Hilham	Standing Stone	Overton	1,093
Hillsboro	Sewanee	Coffee	1,055
Hinch Mountain triangulation station	Kingston	Cumberland	3,000
Holston Mountain	Roan Mountain	Carter	4,350
House Mountain triangulation station	Maynardville	Knox	2,129
Hunter Station	Roan Mountain	Carter	1,566
Iron Mountain Gap	Roan Mountain	Unicoi	3,725
Jabez Knob	Jonesville	Hancock	2,960
Jamestown	Wartburg	Fentress	1,698
Lancing	Wartburg	Morgan	1,184
Lee Knob	Pikeville special	Bledsoe	2,428
Limestone	Greeneville	Washington	1,389

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Locality.	Quadrangle.	County.	Elevation.
			Feet.
Limestone Cove	Roan Mountain	Unicoi	2,381
Little Brushy Mountain	Wartburg	Morgan	2,253
Little Fodderstack	Murphy	Monroe	3,687
Little Frog Mountain	Murphy	Polk	3,330
Lone Mountain	Wartburg	Morgan	2,504
Love triangulation station	McMinnville	White	1,673
Lowry Gap	Pikeville special	Bledsoe	2,001
McLean Rock triangulation station	Maynardville	Claiborne	2,960
McMinnville	McMinnville	Warren	911
Mount Cardwell triangulation station	McMinnville	Warren	1,883
Monteagle	Sewanee	Grundy	1,931
Mountain City	Cranberry	Johnson	2,481
Mount Guyot	Mount Guyot	Cocke-Sevier, Tenn.; Haywood - Swain, N. C.	6,636
Neddy Mountain	Mount Guyot	Cocke	2,617
Newmarket	Maynardville	Jefferson	1,048
Oxier Gap	Pikeville special	Bledsoe	2,196
Panther Knob	Ducktown (special map).	Polk	2,997
Pilot Knob	Standing Stone	Overton	1,705
Pilot Knob	Wartburg	Morgan	2,034
Pilot Knob	Woodbury	Rutherford	1,228
Pomona	Pikeville	Cumberland	1,920
Potato Knob	Pikeville special	Bledsoe	2,206
Potts Knob	Pikeville	Cumberland	2,052
Rag Mountain	Mount Guyot	Cocke	3,654
Roan High Knob	Roan Mountain	Carter, Tenn.; Mitchell, N. C.	6,313
Robbins	Wartburg	Scott	1,369
Rockwood	Kingston	Roane	885
Round Knob	Briceville	Scott	2,960
St. Joseph	Waynesboro	Lawrence	797
Sassafras Knob	Ducktown (special map).	Polk	3,347
Sassafras Mountain	Murphy	Monroe	3,930
Sewanee	Sewanee	Franklin	1,867
Sheffield	Kingston	Rhea	847
Sherwood	Sewanee	Franklin	700
Short Mountain	McMinnville	Cannon	2,074
Smithville	McMinnville	Dekalb	1,033
Snowbird Mountain	Mount Guyot	Cocke, Tenn.; Haywood, N. C.	4,263
South Pittsburg	Sewanee	Marion	639
Sparta	Pikeville	White	920
Spencer	Pikeville	Van Buren	1,839
Spring	Kingston	Rhea	781
Stony Lump	Greeneville	Greene-Hawkins	2,563
Straw Plains	Maynardville	Jefferson	891
Sunbright	Wartburg	Morgan	1,346
Tracy	Sewanee	Grundy	1,836
Victoria	Sewanee	Marion	682
Walker Knob	Pikeville special	Bledsoe	2,558
Walling	McMinnville	White	909
Wartburg	Wartburg	Morgan	1,373
Wayland Springs	Waynesboro	Lawrence	578
Webb Mountain	Mount Guyot	Sevier	2,807
West Point	Waynesboro	Lawrence	638
Williamsport	Columbia	Maury	632
Worthington Knob	Pikeville special	Bledsoe	2,554

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